#### GENERAL NOTES (APPLICABLE TO ALL WORK AND DOCUMENTS) 1. EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO INSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS. 2. ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSERS DISCRETION. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING AND THE COLLECTION OF CONDENSATION THEREON. IF IN DOUBT, CONTACT THE ENGINEERS. ADVISE THE ENGINEERS OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM. 5. DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE. (SEE ALSO NOTE 21). 6. OBSERVE ALL APP APPLY TO THE WO LOCAL, STATE, FE ETC.) 7. INSTALL EQUIPME **MANUFACTURERS** CONFLICT WITH T ADVISE THE ENGIN CLARIFICATION. 8. DO NOT RECESS EQUIPMENT IN WA BY CODES. NO RESISTIVE RATING 9. THE PURPOSE AN THIS PROJECT IS LIKE NEW FACILIT 10. ALL SYSTEMS, EQI A NEAT AND WOF CRITERION SHALL FINAL DETERMINA WORK RESIDES WI 11. ALL WORK, MATERI GUARANTEED FOR SUBSTANTIAL COM UNLESS LONGER 12. UNLESS OTHERWIS AND/OR MATERIA ON THE BUILDING TO COMPLEMENT 13. WHERE PENETRAT FOR WEATHERPRO A WAY THAT WILL INTEGRITY IN ANY THE ROOFING INS 14. THE CONTRACTOR CASH CONTRIBUT MAY REQUIRE TO TELEVISION, ETC. 15. REFER TO ARCHIT DETAILS FOR LOCA ELECTRICAL DEVIC 16. UNLESS OTHERWIS FIXTURES, DIFFUS SMOKE DETECTORS THE CEILING IN A INDICATED OTHER

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PURCHASING AND INSTALLING ANY EQUIPMENT.

RESPONSIBILITY OF THE PURCHASER.

ENGAGED THEM ON THIS PROJECT.

MAINTAIN CEILING RATINGS

CONTRACTOR(S).

21. DEVIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC. FOR

EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE

APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE

RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY

HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS

SUPPLIERS, INSTALLERS, ETC.. POOR OR UNTIMELY WORK ON THE

23. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT

OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.

24. WHERE FIRE RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE RATED, APPROVED GYPSUM BOARD ENCLOSURES ABOVE LIGHT

FIXTURES, CEILING DEVICES, ETC. IN OR ON CEILING, TO

25. COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS

MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING

PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE

INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND

OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT,

INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND

TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS,

PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER

THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOMEVER

RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND

PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO

WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE AFFECTING INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL

	ALSO NOTE 21).		
6.	OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.)	29.	ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES, EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.
7.	INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORD WITH MANUFACTURERS' RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION.	30.	WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME, PROVIDING PREMIUM TIME AS NEEDED.
8.	DO NOT RECESS PANELBOARD TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING, AS REQUIRED BY CODES. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.		REFER TO ARCHITECTURAL WALL ELEVATIONS (WHERE GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND EQUIPMENT. IF IN DOUBT, CONTACT THE ENGINEER FOR DIRECTION PRIOR TO INSTALLING WORK.
9.	THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.	32.	FLUSH OR PEDESTAL — TYPE FLOOR OUTLETS, AS INDICATED ON PLAN SHALL BE LOCATED BY DIMENSIONS PROVIDED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER PRIOR TO ROUGHING—IN ANY WORK.
10.	ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF THE ACCEPTABILITY OF THE QUALITY OF WORK RESIDES WITH THE ENGINEER.	33.	AS APPLICABLE, REFER TO ARCHITECTURAL PHASING PLANS AND PHASING BOUNDARIES ON THESE DRAWINGS FOR SEQUENCING OF WORK, FULL EXTENT OF AREAS INVOLVED, EXTENT OF CEILING WORK, ETC. PROVIDE TEMPORARY CONNECTIONS FOR CIRCUITS AND WORK AS REQUIRED TO MAINTAIN SEQUENCE OF THE WORK FROM PHASE TO PHASE.
11.	ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEERS, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.	34.	WHERE EXIT LIGHTS ARE CONNECTED TO EMERGENCY CIRCUITS WITH KEYSWITCH OR CONTACTOR CONTROL, AN UNSWITCHED LINE SHALL BE PULLED IN TO MAINTAIN THEIR OPERATION REGARDLESS OF SWITCH
12.	UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED.	35.	POSITION.  THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORD WITH THE ARCHITECT'S STANDARDS FOR SUCH
13.	WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATIONS IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING INSTALLER.		WORK. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEERS FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.
14.	THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS THAT THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, ETC.)	36.	INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR, UTILITY COMPANY AS NECESSARY, AND THE ARCHITECT, AT LEAST ONE WEEK IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED, TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER
15.	REFER TO ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND CASEWORK DETAILS FOR LOCATION OF RECEPTACLES, UTILITY OUTLETS, ELECTRICAL DEVICES, ETC.		OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.
16.	UNLESS OTHERWISE SPECIFIED OR INDICATED, INSTALL LIGHT FIXTURES, DIFFUSERS, REGISTERS, GRILLES, SPRINKLER HEADS, SMOKE DETECTORS AND OTHER CEILING MOUNTED APPURTENANCES IN THE CEILING IN A SYMMETRICAL PATTERN, UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE ARCHITECTUAL REFLECTED CEILING PLANS.	37.	LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING, TO MAXIMIZE AVAILABLE LIGHT.  SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.
17.	CEILING-MOUNTED ELECTRICAL DEVICES SHALL BE CENTERED IN 2'X2' CEILING TILE AND INSTALLED CENTERED ON 2' DIMENSION OF 2'X4' TILE AND ON CENTERLINE OR A QUARTER POINT ON 4'		WHERE EXIT SIGNS OR EMERGENCY BATTERY PACKS ARE PROVIDED, THEY SHALL BE CONNECTED TO AN UNSWITCHED LINE.
	DIMENSION, AS INDICATED.  ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.	39.	ALL LIGHTING FIXTURE LENSES, PARABOLIC LOUVERS, DOWNLIGHTING ALZAK CONES AND "PARACUBE" LOUVERS SHALL BE HANDLED WITH COTTON GLOVES DURING INSTALLATION AND LAMPING TO AVOID FINGERPRINTS OR DIRT DEPOSITS. IT IS PREFERRED THAT FIXTURES BE SHIPPED AND INSTALLED WITH CLEAR PLASTIC BAGS TO PROTECT LOUVERS. AT CLOSE OF PROJECT, AND AFTER CONSTRUCTION AIR FILTERS ARE CHANGED, REMOVE BAGS. ANY LOUVER OR CONE SHOWING DIRT OR FINGER PRINTS SHALL BE CLEANED WITH SOLVENT RECOMMENDED BY THE MANUFACTURER, OR REPLACED AS NECESSARY IN ORDER TO TURN OVER TO THE OWNER NEW
19.	CHECK ALL THREE PHASE MOTORS WITH $\&$ ROTATION METER , PRIOR TO PLACING IN SERVICE.	40	FIXTURES AT OCCUPANCY.  REFER TO ARCHITECTURAL DETAILS AS APPLICABLE FOR RECESSED
20.	PROVIDE DETAILED SHOP DRAWINGS TO ENGINEERS PRIOR TO PURCHASING AND INSTALLING ANY EQUIPMENT.	<del>4</del> ∪.	SOFFIT FLUORESCENT FIXTURES. ADJUST FIXTURE LENGTHS BY FIELD MEASUREMENT OF SOFFIT, AS NECESSARY.

26. ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LABELED BY

APPROVED AND LABELING OF INDIVIDUAL COMPONENTS ON AN

ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT,

28. ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF

EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES, PAY

ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK

MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES,

THE MOST STRINGENT REQUIREMENT SHALL APPLY.

PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE,

SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR

LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE

THEIR WORK SO AS TO INSURE THAT THEY DO NOT INTERRUPT ANY

27. ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF

UNLESS WAIVED BY THE ENGINEER IN WRITING.

TO TERMINAL POINT.

UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY.

SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR SHALL BE

INSTALLED CONTINUOUS INSOFAR AS POSSIBLE FROM TERMINAL POINT

SYSTEM SWITCHES		DEVICE MORE TO F NONE LI	BACKBOX, COVER IF APPLICABLE	MOUNTING	DRAWING SYMBOL
SWITCHES	ITEM		BA L	<del>                                     </del>	
	LIGHT SWITCH: GENERAL PURPOSE			4'-0"	Ş
	DIMMER SWITCH			4'-0"	ŞD
	THREE-WAY SWITCH			4'-0"	Ş <sub>3</sub>
	FOUR-WAY SWITCH			4'-0"	\$ <sub>4</sub>
	KEYED SWITCH  DUAL TECHNOLOGY, ULTRASONIC WALL			4'-0"	Şĸ
	MOUNTED TYPE OCCUPANCY SENSOR  DUAL TECHNOLOGY OCCUPANCY SENSOR WITH			4'-0"	Şos
	PIR AND ULTRASONIC SENSING. WITH ISOLATED RELAY OUTPUTS 360° COVERAGE		CONNECT INTO ROOM LIGHTING CIRCUIT PER MFR. INSTRUCTIONS	CEIL	(OS)
	PHOTO-CELL AS NOTED			AS NOTED	PC
	MOTOR RATED SNAP SWITCH			4'-0"	ŞM
	WALL SWITCH: MOMENTARY CONTACT			4'-0"	Y™ Smc
	WALL SWITCH: TIMER			4'-0"	
	PILOT LIGHT SWITCH (ILLUMINATED WHEN			4'-0"	Şt Şpl
	LOAD IS ON)  ILLUMINATED HANDLE LIGHT SWITCH (ILLUMINATED WHEN LOAD IS OFF)			4'-0"	, Şıl
	(ILLOMINATED WHEN LOAD IS OFF)				<b>'</b>
LIOLITINO				DEOL	$\wedge$
LIGHTING	PARKING GARAGE LUMINAIRE			DECK	$\bigoplus$
DIAGONAL SLASH ONDICATES RECESSED	OUTDOOR AREA LUMINAIRE			XX' POLE AS	
	EXTERIOR WALL PACK			SCHED.	
CRITICAL BRANCH	4' STRIP LUMINAIRE		1	CEIL. LEAST	
STRAIGHT HATCH CATES LIFE SAFETY	EXIT LIGHT (CEILING, END MOUNT)		7'	6" AFF ABOVE	$\bigotimes_{i} \bigotimes_{j} \bigotimes_{i} \bigotimes_{j} \bigotimes_{j} \bigotimes_{i} \bigotimes_{j} \bigotimes_{j$
	EXIT LIGHT (WALL MOUNT SINGLE FACE)			ABOVE DOOR	igotimes
DOWES					
POWER OUTLETS	SIMPLEX			1'-6"	$\ominus$
	DUPLEX			1'-6"	$\rightarrow$
	DUPLEX (ABOVE COUNTERTOP)			8" ACT.	$ \varnothing $
	DUPLEX WITH INTEGRAL			1'-6"	GFI
	GROUND FAULT PROTECTION  WEATHER RESISTANT DUPLEX — WITH				011
	WEATHER-PROOF "WHILE IN USE" TYPE DIE-CAST METAL COVERPLATE WITH			1'-6"	₩P
	LOCKABLE ENCLOSURE AT OUTLET.				
	DUPLEX - SAFETY SHUTTER TYPE			1'-6"	<b>⊕</b> s
	DUPLEX - SURGE SUPPRESSION TYPE			1'-6"	<del>_</del> ss
	QUADRUPLEX RECEPTACLE			1'-6"	<b>⊕</b>
	JUNCTION BOX AND CONDUIT				J
	EQUIPMENT HARDWIRE CONNECTION				
	(SEE DETAIL)			4.0	① <b>V</b>
	3P/4W STRAIGHT BLADE RECEPTACLE			AS NOTED	
	3P/4W TWIST LOCK RECEPTACLE			AS NOTED	
					∕–GROU
MISC.	CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS				NEUT / NEUT
	DISCONNECT SWITCH			5'-0"	
	MAGNETIC STARTER			5'-0"	$\bowtie$
	MAGNETIC COMBINATION STARTER			5'-0"	$\bowtie$
	ENCLOSED FLUSH MTD. CIRCUIT BREAKER			5'-0"	
	WEATHERPROOF				WP
	WIREWAY WITH REMOVABLE COVER (SIZE AS NOTED)			AS SHOWN	<b>*</b> ///-
	TRENCH DUCT (SIZE AS NOTED)			AS SHOWN	
	PUSHBUTTON STATION			4'-0"	•
	FLEXIBLE CONDUIT				$\sim$
	EMERGENCY PANELBOARD,			6'-6" TO TOP	
	SURFACE OR FLUSH MOUNTED  NORMAL PANELBOARD, SURFACE OR FLUSH MOUNTED			6'-6"	
	TRANSFORMER			TO TOP AS NOTED	
	MOTOR RATED SNAP SWITCH			AS NOTED	\$M
	EMERGENCY POWER CIRCUIT			INUIED	т''' — Е —
	M.E.S. (MAJOR EQUIPMENT				
	SCHEDÙLE) # INDICATOR TAGGED NOTE				$\widetilde{\bigcirc}$
	REVISION NOTE				$\overline{\wedge}$
	MECHANICAL EQUIPMENT DESIG- NATOR (SEE MECH. SCHEDULES)				
	JUNCTION BOX		AS NOTED	AS NOTED	<b>O</b>
	CABLE TRAY AS NOTED		.10120	AS SHOWN	- 
	J-HOOK CABLE PATH				· '
	EQUIPMENT HARDWIRE CONNECTION				<b>J</b> V
	(SEE DETAIL)  EQUIPMENT OUTLET COUPLING CONNECTION (SEE DETAIL)				
	CONNECTION (SEE DETAIL)				ĸ
	SURFACE VERTICAL RACEWAY RISER UP WALL (OR DOWN IF INDICATED) TO ACCESSIBLE CEILING/ATTIC SPACE (UP TO HORIZONTAL WIREWAY WHERE INDICATED). WHERE SHOWN WITH OUTLET, PROVIDE WITH OUTLET BOX AT BASE OF VERTICAL RISER.				⊠ OR ■

		EYICE MODEL EFER TO SPEC NONE LISTED	BACKBOX, COVE IF APPLICABLE	MOUNTING HEIGH	DRAWING SYMBC						
SYSTEM ACCESS	TEM		<u> </u>	<u>Š</u>		SYSTEM	$\neg \top$		$\Box$	$\overline{\Box}$	$\top$
CONTROL	ACCESS CONTROL PANEL				ACC	INSTALLATION					
	CARD READER  ELECTRONIC DOOR RELEASE			54"	(CR)	MATRIX					0 1 0
	(ELECTRONIC STRIKE)		AS REQ'D	DOOR FRAME	(DS)		H				
	ACCESS CONTROL DOOR POWER CONNECTION		N/A	ABOVE DOOR	(P)		ITEM USED ON PROJECT				
	ELECTRONIC DOOR RELEASE (MAGNETIC LOCK)		AS REQ'D	DOOR FRAME	ML				CFC	OO	CABLING/CONDUCTORS
	VEHICLE GATE			RE: ARCH PLANS	(VG)		8		Image: control of the		Ŏ.
	AUTOMATIC VEHICLE IDENTIFICATION READER			CEIL.	⟨⟨v			ဟ္တတ္တ	X		0/0
INTRUSION	INTRUSION DETECTION PANEL				SEC		Ď M		BACKBOX	CONDUIT - OFC	
DETECTION	DOOR CONTACT		N/A	DOOR FRAME	(DC)	SYSTEM ITEM			BA	88	S
	MOTION DETECTOR			CEIL.	MD	DATA/VOICE					$\coprod$
ССТУ	CCTV HEAD END PANEL				ССТУ	CCTV DETECTION					${f H}$
	CCTV DOME CAMERA			1	© ©	ACCESS CONTROLS (VEHICLE)					
	CCTV FIXED CAMERA				(€)√	ACCESS CONTROLS (PEDESTRIA	N)				
	-				_	FIRE ALARM					
	CCTV PTZ CAMERA			ON	© <b>■</b>						
INTERCOM	INTERCOM REMOTE STATION			POST	R						
	INTERCOM MASTER STATION				ĺ ĺM						
	EMERGENCY PHONE				(P)						
DATA / VOICE / VIDEO	DATA DROP: NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA DROPS TO BE PROVIDED AND INSTALLED. IF NO NUMBER IS INDICATED, PROVIDE (1) DROP		1G	1'-6"	$\bigvee,\bigvee,\bigvee$						
	WIRELESS ACCESS POINT			CEIL.	WAP						
	VOICE OUTLET: NUMBER BESIDE OUTLET INDICATES NUMBER OF VOICE JACKS TO BE PROVIDED AND INSTALLED. IF NO NUMBER IS INDICATED, THERE SHALL BE ONLY ONE VOICE JACK.		1G	1'-6"	$\bigvee_{2V}^{V-VOICE}$						
	COMBINATION OUTLET: NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA/VOICE JACKS TO BE PROVIDED AND INSTALLED. IF NO NUMBER IS INDICATED, THERE SHALL BE ONLY ONE DATA AND ONE VOICE JACK.		1G	1'-6"	T - TELEVISION 2D/2V/2T  , V						
	COMMUNICATION ROUGH IN ONLY			1							
	PROVIDE BLANK COVER PLATE OUTLET: ABOVE COUNTERTOP			ABV.	C						
	OUTLET: WALL MOUNTED			CNTR. 4'-0"	W						
	MAIN DISTRIBUTION FRAME RACK — REFERENCE DATA SYSTEM SHCEMATICS AND DETAILS. FOR ADDITIONAL INFORMATION / REQUIREMENTS				MDF						
	INTERMEDIATE DISTRIBUTION FRAME RACK  - REFERENCE DATA SYSTEM SHCEMATICS AND DETAILS. FOR ADDITIONAL INFORMATION / REQUIREMENTS				IDF						
ABBREVIATIONS	UNLESS OTHERWISE NOTED				UON						
	OWNER FURNISHED CONTRACTOR INSTALLED				OFCI						
	OWNER FURNISHED OWNER INSTALLED	1			OFOI						
	CONTRACTOR FURNISHED CONTRACTOR INSTALLED				CFCI						
	CONTRACTOR FURNISHED OWNER INSTALLED				CFOI						
	INDICATES EMERGENCY POWER				E, EM						
LIGHTNING PROTECTION	GROUNDING ROD PER UL 96, NFPA 780  AIR TERMINAL				•						
	CONNECTION TERMINAL			1	$\bigoplus_{\bullet}$						
	CLASS 1 OR CLASS 2 WIRING	1		-							

SYSTEMS EQUIPMENT TERMINAL POINT NOTE:

AT ALL SYSTEMS EQUIPMENT CABINET/TERMINAL BOARD LOCATIONS (| EQUIP | AS INDICATED ON ELECTRICAL DRAWINGS, CONTRACTOR SHALL PROVIDE SIZE AND NUMBER OF CONDUIT STUB-OUTS TO CABLE PATHS AS REQUIRED BY SYSTEM VENDORS. TERMINATE CONDUITS AT CABINETS/ON BACKBOARDS AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH APPROPRIATE VENDORS PRIOR TO CONSTRUCTION.

Revisions:



43. NOT USED.

45. NOT USED.

U.S. Department of Veterans Affairs

FIELD MEASUREMENT OF SOFFIT, AS NECESSARY.

THE MOST STRINGENT SHALL APPLY.

41. WHERE OUTLETS ARE LOCATED APPROXIMATELY BACK—TO—BACK ON OPPOSITE SIDES OF A PARTY WALL, THE OUTLETS SHALL NOT BE

42. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES.

44. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO

46. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS. OR

DIMENSIONS SUPPLIED TO THE CONTRACTOR.

THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE

REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS

HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCUR

BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT

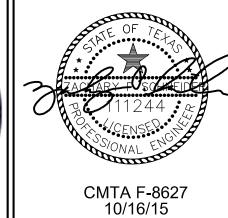
THE ENGINEERS FOR CLARIFICATION PRIOR TO INSTALLING ANY SUCH

INSTALLED IN THE SAME STUD SPACE, BUT SHALL BE SEPARATED BY A MINIMUM OF ONE STUD, UNLESS OTHERWISE APPROVED BY THE

NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION,

Michael E. DeBakey VAMC 2002 Holcombe BLVD, Houston TX 77030





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Drawing Title ELECTRICAL LEGEND **BUILD PARKING** GARAGE A Approved for Design Concept: FACILITY MANAGEMENT **DIVISION MANAGER** 2015/10/16 ZPS

100% CONSTRUCTION DOCUMENTS CMTA Project Number OFFICE OF VHG14 **FACILITIES Building Number** MANAGEMENT Drawing Number VA Project Number Michael E. DeBakey VAMC, Houston, TX Checked By: Drawn By: U.S. Department of Veterans Affairs

IRS

#### GENERAL NEW WORK NOTES (LIGHTING, POWER, AND SYSTEMS): THIN SOLID LINES INDICATE EXISTING ITEMS TO REMAIN (U.O.N.) AND THICK SOLID LINES INDICATE NEW WORK. REFER TO THE ARCHITECT'S CASEWORK DETAILS AND ROOM ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF DEVICES, ETC. ■ ALL NEW WIRING SHALL BE #12 WITH A #12 INSULATED GROUND WIRE (U.O.N.). CONDUIT SHALL BE 3/4" MINIMUM. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL INSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 $\H/$ 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED. PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION. REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS ON EACH SYSTEM. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR EACH RECEPTACLE, SWITCH, ETC. IN AREA OF CONSTRUCTION. ENGRAVE THE OUTSIDE OF THE DEVICE COVERPLATES FOR IDENTIFICATION. PROVIDE STAINLESS STEEL FACEPLATES PER SPECIFICATIONS. LEVEL 2 ELECTRICAL PLAN 2 1/16" = 1' TAGGED NOTES: AUTOMATIC VEHICLE IDENTIFIER: PROVIDE ROUGH-IN FOR AUTOMATIC VEHICLE IDENTIFIER AT LOCATION SHOWN PER MANUFACTURER REQUIREMENTS. PROVIDE POWER AND DATA CONNECTIONS IN CONDUIT TO SECURITY ROOM. VEHICLE ACCESS CONTROL GATE: PROVIDE ROUGH-IN FOR ELECTRIC VEHICLE GATE AT LOCATION SHOWN PER MANUFACTURER REQUIREMENTS. PROVIDE ELECTRICAL POWER IN CONDUIT. PROVIDE (1) 1" CONDUIT FROM EACH GATE TO SECURITY ROOM FOR CONTROL CABLING. COORDINATE STUB-UP REQUIREMENTS WITH ARCHITECT AND GATE MANUFACTURER. INTERCOM STATION: PROVIDE INTERCOM STATIONS MOUNTED ON POSTS (BY OTHERS) AT LOCATIONS INDICATED. PROVIDE (1) 3/4" CÒNDUIT TO POST. COORDINATE STUB-UP REQUIREMENTS WITH ARCHITECT AND INTERCOM MANUFACTURER. SECURITY CAMERA (PTZ): PROVIDE PTZ SECURITY CAMERA (SPECTRA HD W/ CLEAR BUBBLE, PELCO#D5118 PTZ TO MATCH EXISTING) AT LOCATION INDICATED. PROVIDE CONDUIT FOR POWER AND DATA ROUTED TO SECURITY ROOM ON GROUND SECURITY CAMERA (FIXED): PROVIDE FIXED SECURITY CAMERA (SARIX VANDAL MINIDOME W/ CLEAR BUBBLE TO MATCH EXISTING) AT LOCATION INDICATED. PROVIDE CONDUIT FOR POWER AND DATA ROUTED TO SECURITY ROOM ON GROUND 6 LONG RANGE OCCUPANCY SENSOR FOR DECK LIGHTS. SET OCCUPANCY SENSOR TO 30 MINUTE TIME OUT. OCCUPANCY SENSOR TO 30 MINUTE TIME OUT. REFER TO DRAWING NUMBER SF502 FOR MORE INFORMATION ON MOUNTING DETAILS. LEVEL 4 EL +34'-0" LEVEL 3 EL +22'-8" LEVEL 2 EL +11'-4" LEVEL 1 ELECTRICAL PLAN 1/16" = 1' LEVEL 1 EL +0'-0" **KEY PLAN** 100% CONSTRUCTION DOCUMENTS CMTA Project Number Drawing Title OFFICE OF ARCHITECT/ENGINEERS: LEVEL 1 & 2 ELECTRICAL PLAN VHG14 **BUILD PARKING FACILITIES** U.S. Department PROJECT LEAD Civil Engineer Functional Design Building Number Mech & Plumb Elec Engineer GARAGE A MANAGEMENT Architect, Structural Enginee Engineer of Veterans Affairs APOGEE CONSULTING CMTA CONSULTING GROUP, PA ENGINEERS CARL WALKER INC. Drawing Number Approved for Design Concept: VA Project Number DESIGN 1151 Kildare Farm Road, Suite 120, Cary, NC 27511 1610 Woodstead Court, 1225 North Loop 2801 Network Blvd., Michael E. DeBakey VAMC, Houston, TX 580-321 FACILITY MANAGEMENT West,Suite 900 Woodlands, TX 77380 Houston, TX 77008 Frisco, TX 75034 905 N. CAPITOL AVE. SUITE 100 INDIANAPOLIS, IN. 46204 Checked By: Drawn By: Michael E. DeBakey VAMC 2002 Holcombe BLVD, Houston TX 77030 DIVISION MANAGER U.S. Department of Veterans Affairs CMTA F-8627 10/16/15 T: 919.858.7420 T: 281.419.9899 T: 713.864.2900 T: 469.777.5143 317.800.6388 ZPS IRS 2015/10/16 Revisions:

#### DEDUCT ALTERNATES: GENERAL NEW WORK NOTES (LIGHTING, POWER, AND SYSTEMS): A. REMOVE ELEVATOR #2 CAB AND EQUIPMENT. ELEVATOR HOIST THIN SOLID LINES INDICATE EXISTING ITEMS TO REMAIN (U.O.N.) AND THICK SOLID WAY TO REMAIN. LINES INDICATE NEW WORK. - DELETE DISCONNECT AND POWER FEEDER CONDUCTORS SERVING ELEVATOR MACHINE #2. REFER TO THE ARCHITECT'S CASEWORK DETAILS AND ROOM ELEVATIONS FOR EXACT - CONDUITS AND SPARE ELECTRICAL CAPACITY SHALL REMAIN LOCATIONS AND MOUNTING HEIGHTS OF DEVICES, ETC. IN DESIGN TO ALLOW FOR FUTURE INSTALLATION OF SECOND ELEVATOR CAB. B. REMOVE CAR/PARKING COUNT SYSTEM ■ ALL NEW WIRING SHALL BE #12 WITH A #12 INSULATED GROUND WIRE (U.O.N.). - DELETE ALL BOXES, CONDUIT, ROUGH-INS, ETC. ASSOCIATED CONDUIT SHALL BE 3/4" MINIMUM. WITH THIS SYSTEM. C. REMOVE STOREFRONT FROM STAIR SHAFTS THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE DEDUCT 2 A. DEDUCT LEVEL 4 PRECAST CONCRETE STRUCTURE AND CONTRACTOR SHALL INSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE- DEMOLITION" WORKING ASSOCIATE ITEMS TO COLUMN LINE 7. - DELETE (20) TYPE 'A' PARKING DECK LIGHT FIXTURES FROM ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL - RELOCATE LEVEL 3 DAYLIGHT TRANSITION LIGHTING TO NEW DAYLIGHT TRANSITION AREA AT COLUMN LINE 7. B. REDUCE SOUTH STAIR AND ELEVATOR TOWER 1 LEVEL CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE DELETE ALL LIGHTING, POWER, AND SYSTEMS DEVICES FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER SHOWN ON LEVEL 4 OF SOUTH STAIR TOWER. HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT DEDUCT 3 A. DEDUCT LEVEL 4 PRECAST CONCRETE STRUCTURE AND CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING ASSOCIATE ITEMS FROM COLUMN LINE 7 TO LEVEL 3 RAMP CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER COLUMN LINE 3. N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C. #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED. ALL DELETIONS DESCRIBED IN DEDUCT 2 APPLY - DELETE (21) TYPE 'A' PARKING DECK LIGHT FIXTURES FROM LEVELS 2 AND 3. RELOCATE LEVEL 3 DAYLIGHT TRANSITION LIGHTING TO NEW PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING DAYLIGHT TRANSITION AREA AT LEVEL 2 COLUMN LINE 3. INSTALLATION. B. REDUCE NORTH STAIR TOWER 1 LEVEL. - DELETE ALL LIGHTING, POWER, AND SYSTEMS DEVICES REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SHOWN ON LEVEL 4 OF NORTH STAIR TOWER. SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS ON EACH SYSTEM. C. REMOVE SILANE SEALER ON ALL LEVELS. IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR EACH RECEPTACLE, SWITCH, ETC. IN AREA OF CONSTRUCTION. ENGRAVE THE OUTSIDE OF THE DEVICE COVERPLATES FOR IDENTIFICATION. PROVIDE STAINLESS STEEL FACEPLATES PER SPECIFICATIONS. LEVEL 4 ELECTRICAL PLAN 1/16" = 1' TAGGED NOTES: AUTOMATIC VEHICLE IDENTIFIER: PROVIDE ROUGH-IN FOR AUTOMATIC VEHICLE IDENTIFIER AT LOCATION SHOWN PER MANUFACTURER REQUIREMENTS. PROVIDE POWER AND DATA CONNECTIONS IN CONDUIT TO SECURITY ROOM. VEHICLE ACCESS CONTROL GATE: PROVIDE ROUGH-IN FOR ELECTRIC VEHICLE GATE AT LOCATION SHOWN PER MANUFACTURER REQUIREMENTS. PROVIDE ELECTRICAL POWER IN CONDUIT. PROVIDE (1) 1" CONDUIT FROM EACH GATE TO SECURITY ROOM FOR CONTROL CABLING. 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LEVEL 4 EL +34'-0" LEVEL 3 EL +22'-8" LEVEL 2 LEVEL 3 ELECTRICAL PLAN 1/16" = 1' EL +11'-4" LEVEL 1 EL +0'-0" **KEY PLAN** 100% CONSTRUCTION DOCUMENTS CMTA Project Number Drawing Title OFFICE OF ARCHITECT/ENGINEERS: LEVEL 3 & 4 ELECTRICAL PLAN VHG14 **BUILD PARKING FACILITIES** U.S. Department PROJECT LEAD Civil Engineer Functional Design Mech & Plumb Building Number Elec Engineer GARAGE A MANAGEMENT Architect, Structural Engineer Engineer of Veterans Affairs APOGEE CONSULTING GROUP, PA CMTA CONSULTING ENGINEERS CARL WALKER INC. Approved for Design Concept: VA Project Number Drawing Number 1151 Kildare Farm Road, 1610 Woodstead Court, 1225 North Loop │ Michael E. DeBakey VAMC, Houston, TX 2801 Network Blvd., 580-321 FACILITY MANAGEMENT DESIGN Suite 120, West,Suite 900 Cary, NC 27511 Woodlands, TX 77380 Houston, TX 77008 Frisco, TX 75034 905 N. CAPITOL AVE. SUITE 100 INDIANAPOLIS, IN. 46204 Checked By: Drawn By: Michael E. DeBakey VAMC 2002 Holcombe BLVD, Houston TX 77030 **DIVISION MANAGER** U.S. Department of Veterans Affairs CMTA F-8627 10/16/15 T: 281.419.9899 T: 919.858.7420 T: 713.864.2900 T: 469.777.5143 317.800.6388 ZPS IRS 2015/10/16

Revisions:

### GENERAL NEW WORK NOTES (LIGHTING, POWER, AND SYSTEMS):

- THIN SOLID LINES INDICATE EXISTING ITEMS TO REMAIN (U.O.N.) AND THICK SOLID LINES INDICATE NEW WORK.
- REFER TO THE ARCHITECT'S CASEWORK DETAILS AND ROOM ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF DEVICES, ETC.
- ALL NEW WIRING SHALL BE #12 WITH A #12 INSULATED GROUND WIRE (U.O.N.). CONDUIT SHALL BE 3/4" MINIMUM.
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- CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.
- PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION.
- REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS ON EACH SYSTEM.
- IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR EACH RECEPTACLE, SWITCH, ETC. IN AREA OF CONSTRUCTION. ENGRAVE THE OUTSIDE OF THE DEVICE COVERPLATES FOR IDENTIFICATION. PROVIDE STAINLESS STEEL FACEPLATES PER SPECIFICATIONS.

#### TAGGED NOTES:

- PROVIDE "BLUE LIGHT" SECURITY TELEPHONE CALL BOX MOUNTED ON WALL PER VA STANDARDS. TYPICAL ALL FLOORS. IN ADDITION TO POWER CIRCUIT, PROVIDE (1) 3/4" CONDUIT FROM CALL BOX DIRECTLY TO TERMINAL BLOCK IN FIRST FLOOR IT CLOSET. INSTALL (1) CAT 6 CABLE IN CONDUIT AND TERMINATE AT PHONE. VA WILL TERMINATE ON TTB. REFER TO SPECIFICATIONS FOR DEMENSION DETAILS.
- $\langle 2 \rangle$  CONTINUE CIRCUIT TO LEVEL ABOVE
- ELEVATOR EQUIPMENT: PROVIDE 120V/20A/1P ENCLOSED CIRCUIT BREAKER WITH NEMA-1, SURFACE ENCLOSURE FOR ELEVATOR EQUIPMENT. BREAKER SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 620. COORDINATE CLEARANCE AROUND DISCONNECT SWITCH PER NEC WITH ELEVATOR INSTALLER. ELECTRICAL CONNECTION FROM DISCONNECT SWITCH TO ELEVATOR EQUIPMENT BY ELEVATOR INSTALLER AND INSTALLED IN ACCORDANCE WITH NEC 620.
- ELEVATOR DISCONNECT SWITCH: PROVIDE 600V/30A/3P DISCONNECT SWITCH WITH NEMA-1, SURFACE ENCLOSURE FUSED AT EQUIPMENT NAMEPLATE RATING FOR ELEVATOR. DISCONNECT SWITCH SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER 2008 NEC 620.51. COORDINATE CLEARANCE AROUND DISCONNECT SWITCH PER 2008 NEC 620.71 WITH ELEVATOR INSTALLER PRIOR TO ROUGH-IN.
- SUMP PUMP: PROVIDE POWER FOR ELEVATOR PIT SUMP PUMP WITH MOTOR RATED TOGGLE SWITCH. LOCATE SWITCH ADJACENT TO PIT LADDER AND LABEL COVERPLATE "SUMP PUMP". COORDINATE LADDER LOCATION WITH ARCHITECTURAL DRAWINGS. MOUNT SWITCH 48" ABOVE PIT FINISHED FLOOR. VERIFY OUTLET REQUIREMENTS WITH MOTOR MANUFACTURER PRIOR TO ROUGH—IN. REFER TO PLUMBING PLANS FOR EXACT MOTOR LOCATION.
- ELEVATOR PIT AND TOP OF SHAFT 120V DEVICES: PROVIDE SWITCH, NEMA 5-20 GFCI DUPLEX RECEPTACLE AND LIGHT FIXTURES (LOCATED IN ELEVATOR PIT AND TOP OF SHAFT AS SHOWN ON PLANS). SWITCH SHALL BE LOCATED ADJACENT TO ELEVATOR PIT LADDER/ENTRANCE WAY AND SHALL CONTROL ALL LIGHTING THROUGHOUT THE SHAFT. COORDINATE LADDER/ENTRANCE WAY WITH ARCHITECTURAL DRAWINGS.
- STUB-UP COMMUNICATION DUCT BANK CONDUITS INSIDE GARAGE IT ROOM. SEE SITE PLAN FOR FURTHER INFORMATION AND LOCATION OF DUCT BANK. PROVIDE COMMUNICATIONS CABLING AS NECESSARY AND TERMINATE ON COMMUNICATIONS EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE NEW FIRE ALARM CONTROL PANEL. PANEL SHALL MATCH EQUIPMENT ALREADY INSTALLED ON CAMPUS. INTERCONNECT FIRE ALARM WITH CAMPUS NETWORK VIA DUCTBANK TO BUILDING 122.

- PROVIDE NETWORK SWITCH AND PATCH PANELS FOR CONNECTION OF IP SECURITY CAMERAS. PROVIDE RACK, PATCH PANELS, POWER STRIP, CABLE MANAGEMENT HARDWARE, ETC. TO MEET VA NETWORK SPECIFICATIONS. SEE SPECS FOR MORE INFORMATION. PROVIDE FIBER AND TERMINALS TO CONNECT CAMERAS TO CAMPUS NETWORK VIA COMMUNICATIONS DUCTBANK TO BUILDING 122.
- PROVIDE POWER AND DATA CONNECTION TO ACCESS CONTROL HARDWARE (BY OTHERS) AT EACH DOOR. COORDINATE REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION.
- PROVIDE WALL-MOUNTED RACK IN IT ROOM FOR NETWORK SWITCH. PROVIDE NETWORK SWITCH, PATCH PANELS, POWER STRIP, CABLE MANAGEMENT HARDWARE, ETC. TO MEET VA NETWORK SPECIFICATIONS. SEE SPECS FOR MORE INFORMATION.
- SECURITY CAMERA (FIXED): PROVIDE FIXED SECURITY CAMERA (SARIX VANDAL MINIDOME W/ CLEAR BUBBLE TO MATCH EXISTING) AT LOCATION INDICATED. PROVIDE CONDUIT FOR POWER AND DATA ROUTED TO SECURITY ROOM ON GROUND
- CONTRACTOR SHALL CONNECT ACCESS CONTROL, AND INTERCOM SYSTEMS TO CAMPUS NETWORK VIA COMMUNICATIONS DUCTBANK TO BUILDING 122.
- PROVIDE AND INSTALL 30 WATTS OF HEAT TRACE IN THE EXTERIOR HOT BOX. COORDINATE WITH PLUMBING CONTRACTOR FOR EXACT LOCATION.
- (15) CIRCUIT CONTINUED FROM LEVEL BELOW.

### DEDUCT ALTERNATES:

- A. REMOVE ELEVATOR #2 CAB AND EQUIPMENT. ELEVATOR HOIST WAY TO REMAIN.

   DELETE DISCONNECT AND POWER FEEDER CONDUCTORS SERVING ELEVATOR MACHINE #2.

   CONDUITS AND SPARE ELECTRICAL CAPACITY SHALL REMAIN IN DESIGN TO ALLOW FOR FUTURE INSTALLATION OF SECOND
- ELEVATOR CAB.

  B. REMOVE CAR/PARKING COUNT SYSTEM

   DELETE ALL BOXES, CONDUIT, ROUGH—INS, ETC. ASSOCIATED WITH THIS SYSTEM.

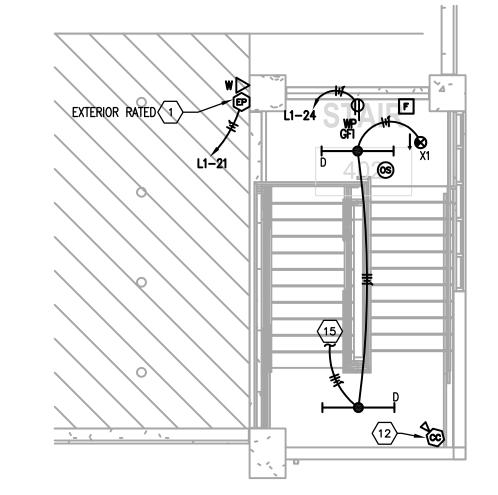
  C. REMOVE STOREFRONT FROM STAIR SHAFTS
- DEDUCT 2

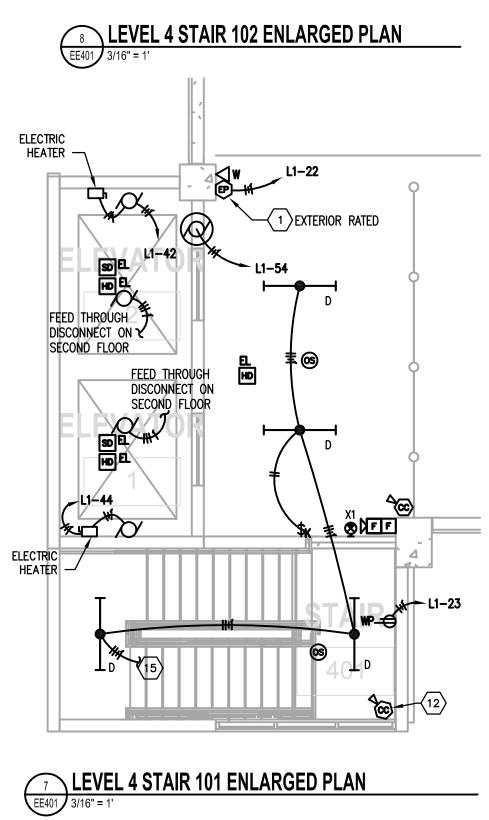
  A. DEDUCT LEVEL 4 PRECAST CONCRETE STRUCTURE AND ASSOCIATE ITEMS TO COLUMN LINE 7.

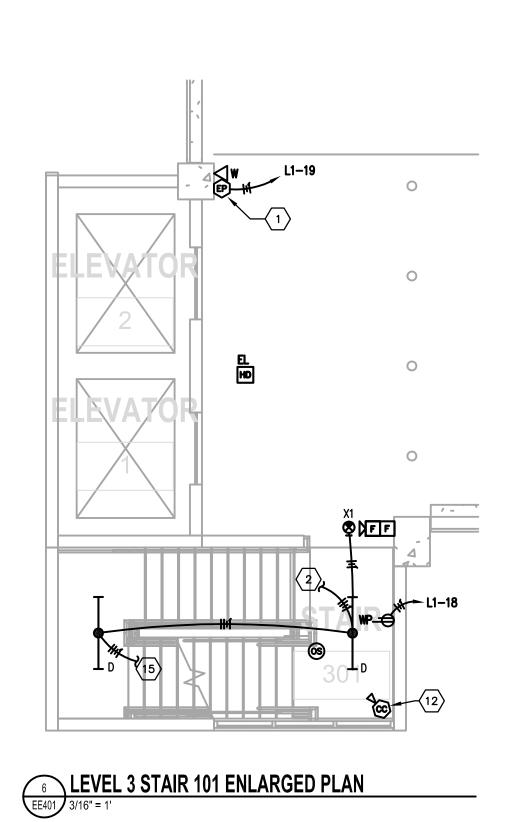
   DELETE (20) TYPE 'A' PARKING DECK LIGHT FIXTURES FROM
- RELOCATE LEVEL 3 DAYLIGHT TRANSITION LIGHTING TO NEW DAYLIGHT TRANSITION AREA AT COLUMN LINE 7.
   B. REDUCE SOUTH STAIR AND ELEVATOR TOWER 1 LEVEL
   DELETE ALL LIGHTING, POWER, AND SYSTEMS DEVICES SHOWN ON LEVEL 4 OF SOUTH STAIR TOWER.
- DEDUCT 3
  A. DEDUCT LEVEL 4 PRECAST CONCRETE STRUCTURE AND
- ASSOCIATE ITEMS FROM COLUMN LINE 7 TO LEVEL 3 RAMP COLUMN LINE 3.

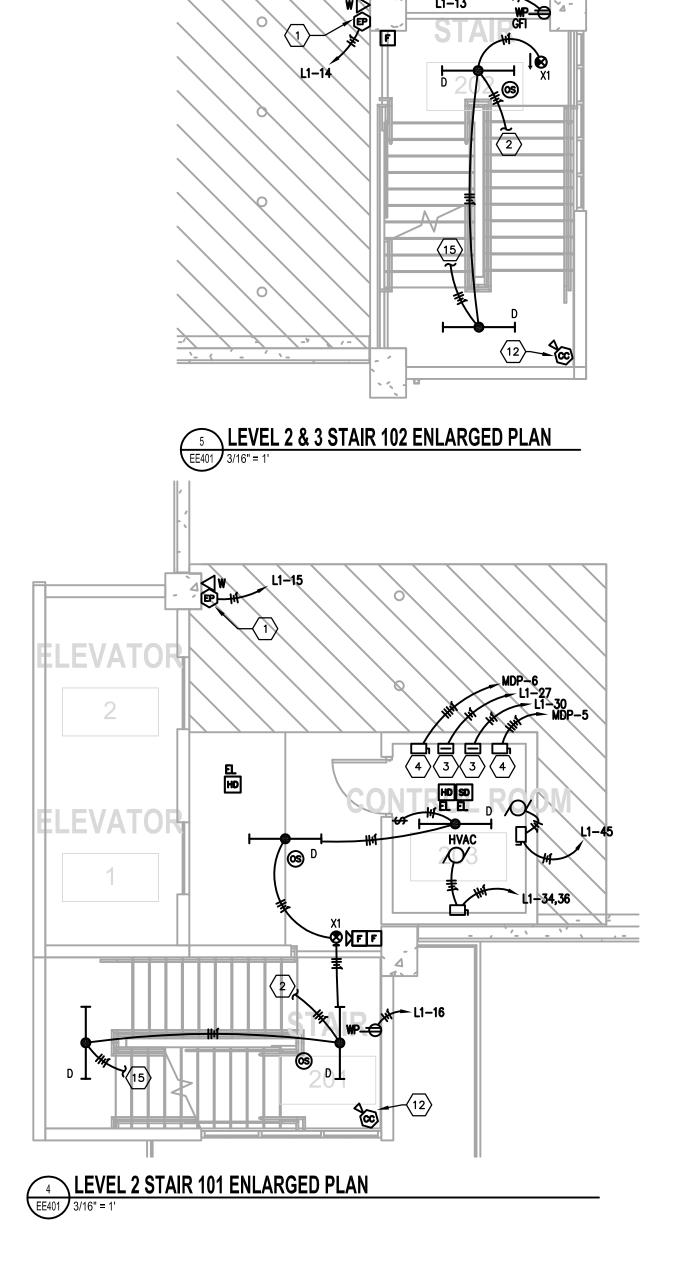
   ALL DELETIONS DESCRIBED IN DEDUCT 2 APPLY
- DELETE (21) TYPE 'A' PARKING DECK LIGHT FIXTURES FROM LEVELS 2 AND 3.
- RELOCATE LEVEL 3 DAYLIGHT TRANSITION LIGHTING TO NEW DAYLIGHT TRANSITION AREA AT LEVEL 2 COLUMN LINE 3.
   REDUCE NORTH STAIR TOWER 1 LEVEL.
- DELETE ALL LIGHTING, POWER, AND SYSTEMS DEVICES SHOWN ON LEVEL 4 OF NORTH STAIR TOWER.

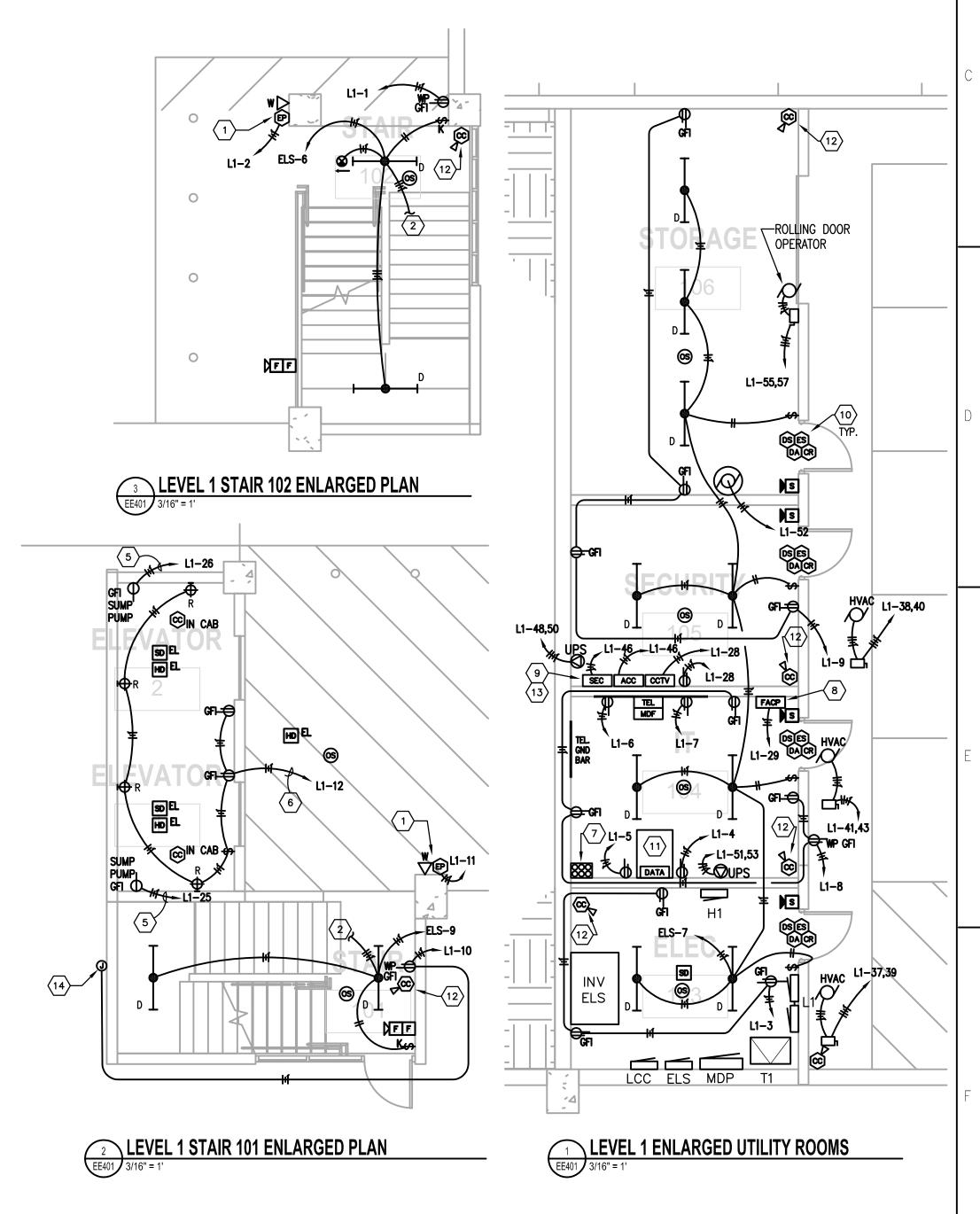
REMOVE SILANE SEALER ON ALL LEVELS.









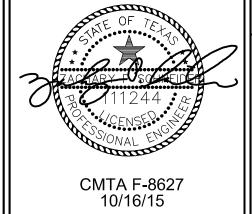




Revisions:









Mech & Plumb
Engineer

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CMTA CONSI
ENGINEERS

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Suite 105
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Elec EngineerCivil EngineerFunctional DesignCMTA CONSULTING<br/>ENGINEERSH2B Inc..CARL WALKER INC.1610 Woodstead Court,<br/>Suite 105<br/>Woodlands, TX 773801225 North Loop<br/>West, Suite 900<br/>Houston, TX 770082801 Network Blvd.,<br/>Suite 101<br/>Frisco, TX 75034T: 281.419.9899T: 713.864.2900T: 469.777.5143

100% CONSTRUCTION DOCUMENTS CMTA Project Number Drawing Title OFFICE OF ELECTRICAL ENLARGED PLANS VHG14 **BUILD PARKING FACILITIES** Building Number GARAGE A MANAGEMENT Approved for Design Concept: Drawing Number VA Project Number Michael E. DeBakey VAMC, Houston, TX **FACILITY MANAGEMENT** Checked By: Drawn By: **DIVISION MANAGER** VA U.S. Department of Veterans Affairs ZPS 2015/10/16 IRS

COMcheck Software Version 4.0.0 Project Information 90.1 (2010) Standard Energy Code: VA A.E Design Services for Garage A Project Title: Project Type: New Construction Construction Site: Designer/Contractor: Owner/Agent: 2002 Holcombe Blvd, Michael E. Debakey VAMC Zachary Schneider CMTA Consulting Engineering Houston, TX 77030 **Allowed Interior Lighting Power** Area Category (ft2) Watts / ft2 (B X C) 37604 Total Allowed Watts = 37605 Proposed Interior Lighting Power B C D E Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast Lamps/ # of Fixture (C X D) Fixture Fixtures Watt. 1-Parking Garage 55 LED 1: A: LED surface Mount parking garag: Other: LED 2: A2: Higher Output A: Other: 110 1980 LED 3: PP: Pole mounted LED: Other: 10 340 LED 4: S: LED Wall Pack: Other: 3 30 90 LED 5: D: Industrial grap: Other: LED 6: R: Wall Mount LED Vaporproof: Other: Total Proposed Watts = 13310 erior Lighting PASSES: Design 65% better than code Interior Lighting Compliance Statement Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2010) Standard requirements in COMcheck Version 4.0.0 and to comply with the mandatory requirements listed in the Inspection Checklist. Report date: 05/19/15 Project Title: VA A.E Design Services for Garage A Data filename: H:\ACAD\VHG14 VAMC Garage\Elec\Calcs\COMcheck.cck Page 1 of 5

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Revisions:

NEEDED TO MAINTAIN THE TARGET ILLUMINANCE LEVEL. OCCUPANCY SENSOR LIGHTING CONTROL TYPICAL WIRING DIAGRAM PARKING GARAGE LIGHTING CONTROL RISER AND SEQUENCE OF OPEREATIONS

TARGET ILLUMINANCE LEVELS

||ENTRANCE|| 50 fc | 25 fc | 1 fc | 0.5 fc

MANUFACTURER'S RECOMMENDATIONS FOR ROOF

GENERAL | 2 fc |

COMPLETE INSTALLATION.

LOCATE GATEWAY

AND NETWORK ---

Elec Engineer

**ENGINEERS** 

CMTA CONSULTING

Woodlands, TX 77380

T: 281.419.9899

SWITCH (IF NEEDED) IN SECURITY ROOM.

NOTE: ALL UNITS IN RESTROOMS ARE TO BE

ULTRASONIC WITH POWER PACKS. ALL

PACKS TO BE LOCATED IN CONCEALED

TO 2ND SENSOR IN

COCCUPANCY SENSOR MOUNTED HIGH

ON WALL IN CORNER OF ROOM OR

MANUFACTURES INSTRUCTIONS WITH

IN CEILING AS SHOWN ON PLANS.

WIRE TO POWER PACK UNIT PER

#18AWG, JACKETED, IN 1/2" C.)

LOW VOLTAGE WIRE (4-COND.

ARCHITECT/ENGINEERS:

PROJECT LEAD

**Architect, Structural Enginee** 

905 N. CAPITOL AVE. SUITE 100

INDIANAPOLIS, IN. 46204

317.800.6388

ROOM, WHERE SHOWN.

Mech & Plumb

APOGEE CONSULTING GROUP, PA

1151 Kildare Farm Road,

Engineer

V Suite 120,

Cary, NC 27511

T: 919.858.7420

OTHER UNITS ARE TO BE INFRARED

WITH POWER PACKS. ALL POWER

LOCATIONS ABOVE ACCESSIBLE

→ 120 OR 277 VAC TO LIGHTS

NOTE: VERIFY ALL WIRING REQUIREMENTS

OCCUPANCY SENSOR POWER PACK-

UNIT LOCATED ABOVE DETECTOR, ABOVE ACCESSIBLE CEILING. IF ROOM

NEARBY ACCESSIBLE CEILING AREA

AND MARK LOCATION ON RECORD

120V, 20A KEY SWITCH IN ROOM TO

U.S. Department

Michael E. DeBakey VAMC

2002 Holcombe BLVD, Houston TX 77030

of Veterans Affairs

BYPASS OCCUPANCY SENSOR AND

TURN ON LIGHTS IF SYSTEM FAILS

MANUFACTURES INSTRUCTIONS

HAS HARD CEILING, MOVE TO

UNIT RATED FOR 120 OR 277V —

WITH MANUFACTURER OF SENSOR

PRIOR TO ROUGH-IN - THIS DIAGRAM

120 OR 277 VAC IN ++ ►

DRAWINGS.

AS REQUIRED.

WIRE PER SENSOR

CMTA F-8627 10/16/15

IS MEANT TO BE ILLUSTRATIVE ONLY.

ROOF | OFF | OFF

CONNECT FIXTURES TOGETHER PER

WIRED CONTROL NETWORK. PROVIDE

CABLING AND CONDUIT AS NEEDED FOR A

PROVIDE NETWORK-COMPATIBLE CONTACTOR

CABINET FOR CONTROL OF AREA LIGHTS ON

GW | SWITCH

PROVIDE NETWORK BRIDGES AND WIRING-

PER MANUFACTURER REQUIREMENTS.

AREA OCCUPANCY STATUS.

**SEQUENCE OF OPERATIONS:** 

ROOF LEVEL OF GARAGE. ROUTE CIRCUITS

FOR THESE LIGHTS THROUGH CABINET. -

SCENARIO

||OCCUPIED | VACANT | OCCUPIED | VACANT

1 fc | 0.5 fc

1 fc | 0.5 fc

A. FIXTURES SHALL BE GROUPED PER OWNER'S PREFERENCES. GROUPED FIXTURES SHALL

C. EACH FIXTURE (EXCEPT ROOF FIXTURES) SHALL INCORPORATE AN OCCUPANCY SENSOR.

AFTER 5 MINUTES OF INACTIVITY, ALL FIXTURES IN GROUP SHALL DIM TO REDUCE

Orawing Title

ELECTRICAL LIGHT FIXTURE

SCHEDULE AND DETAILS

Approved for Design Concept:

**DIVISION MANAGER** 

**FACILITY MANAGEMENT** 

SENSORS SHALL BE CONFIGURED IN AUTO ON/AUTO DIM MODE:

Civil Engineer Functional Design

Houston, TX 77008 Frisco, TX 75034

T: 713.864.2900 T: 469.777.5143

CARL WALKER INC.

2801 Network Blvd.,

DELIVER 'OCCUPIED' ILLUMINANCE LEVEL (SEE TABLE)

ILLUMINANCE TO 'VACANT' LEVEL (SEE TABLE)

1225 North Loop

West, Suite 900

OPERATE TOGETHER. GROUPED OCCUPANCY SENSORS SHALL CONTROL ENTIRE GROUP.

NOTE: DETAIL IS SCHEMATIC AND FOR REFERENCE ONLY. REFER TO MANUFACTURER'S INSTALLATION SHEETS FOR EXACT WIRING DIAGRAM, REQUIREMENTS AND ADDITIONAL INFORMATION. VERIFY AVAILABLE OPTIONS WITH OWNER PRIOR TO PURCHASE.

CMTA Project Number

VHG14

**Building Number** 

Drawing Number

OFFICE OF

**FACILITIES** 

MANAGEMENT

U.S. Department of Veterans Affairs

VA Project Number

580-321

100% CONSTRUCTION DOCUMENTS

Michael E. DeBakey VAMC, Houston, TX

Checked By: Drawn By:

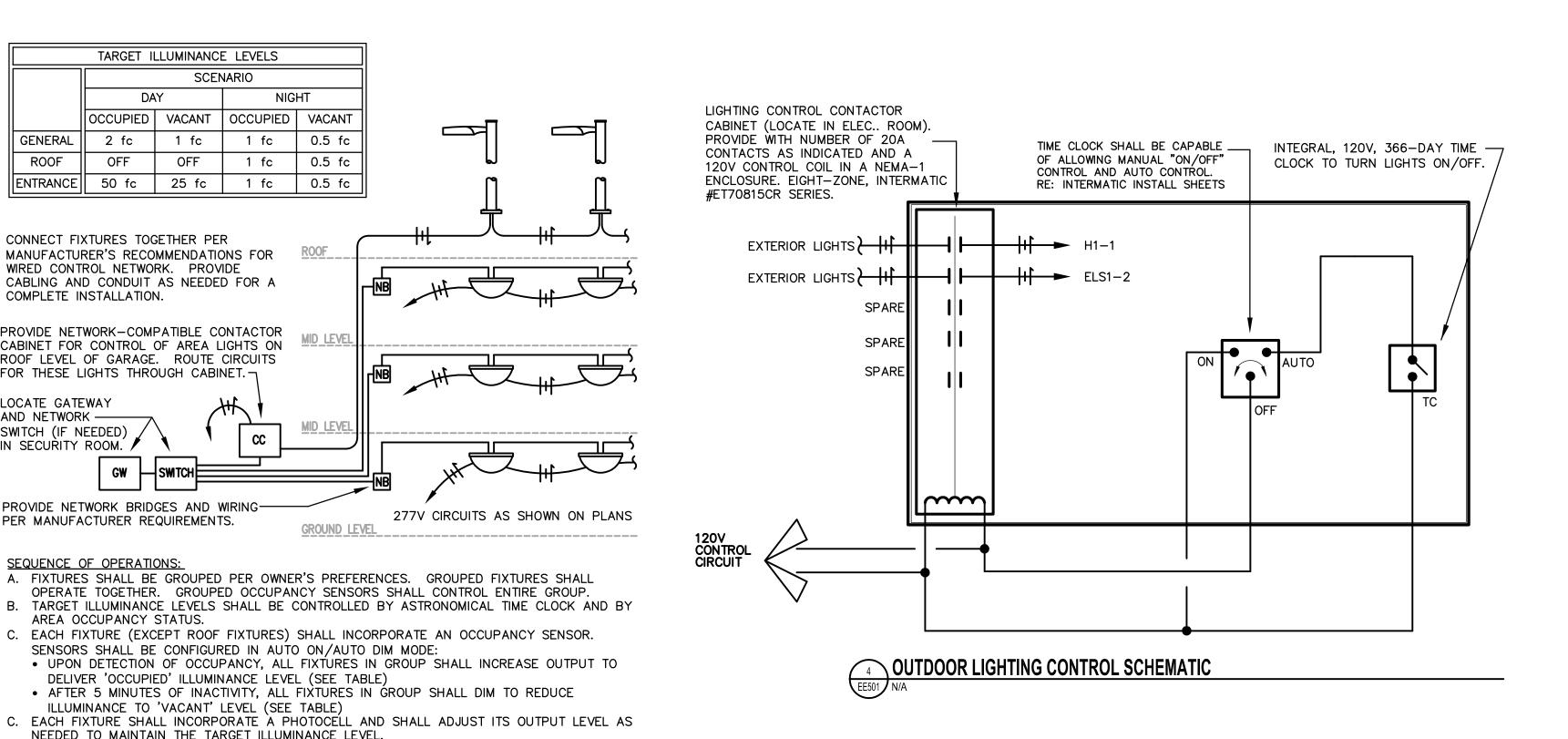
IRS

ZPS

**BUILD PARKING** 

GARAGE A

2015/10/16



 ALL FIXTURES SHALL BE PROVIDED WITH FUSING. CONTRACTOR SHALL FURNISH TO THE OWNER AT COMPLETION 5% OF EACH LIGHT FIXTURE IN-LINE FUSE TYPE WITH A MINIMUM OF 10 OF EACH TYPE. ALL FIXTURES SHALL BE DLC OR ENERGY STAR RATED. REFER TO SPECS FOR ADDITIONAL SPARE LIGHT FIXTURE PARTS. • ALL FIXTURES SHALL BE RATED SUITABLE FOR OPERATION FROM -20°C TO 40°C **LIGHT FIXTURE SCHEDULE** 

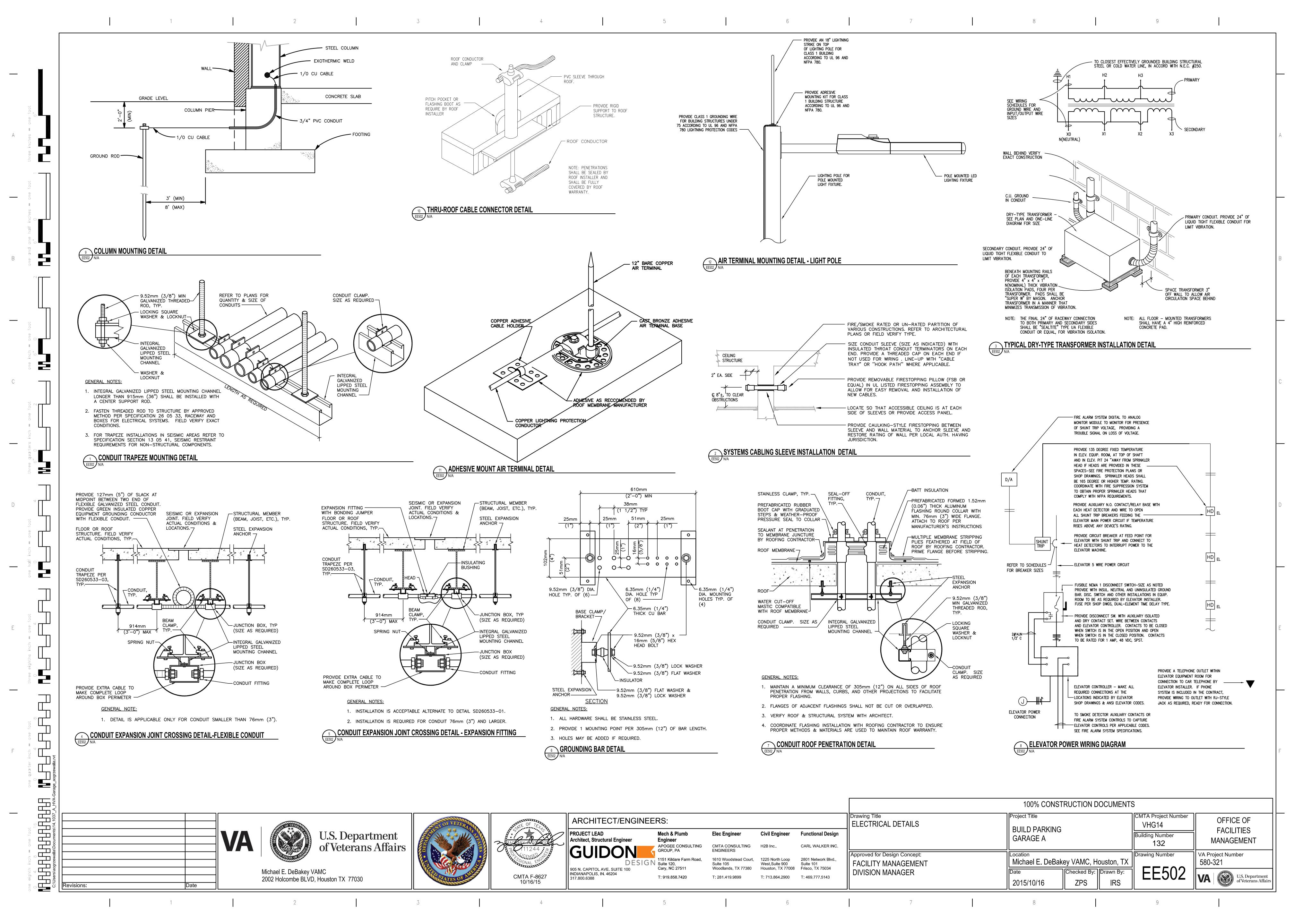
ARCHITECT'S PATH OF EGRESS PLAN. LUMINAIRE SHALL BE DAMP LOCATION RATED. LUMINAIRE SHALL BE WET LOCATION RATED.

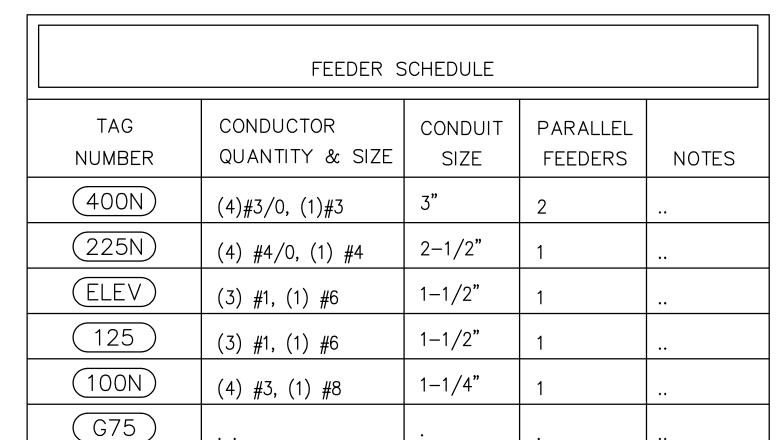
1. PROVIDE ELECTRONIC DRIVER WITH LESS THAN 10% THD. LUMINAIRE SHALL BE QUALIFIED DLC OR ENERGY STAR. LUMINAIRE SHALL BE TM-21 TESTED. LUMINAIRE SHALL BE PHOTOMETRICALLY TESTED IN ACCORDANCE WITH IESNA LM-79 AND LM-80. PROVIDE EXIT SIGNS WITH ARROWS AND MOUNTING BRACKETS AS REQUIRED. MATCH ARROWS WITH

 ALL MANUFACTURERS SHALL OFFICIALLY SUBMIT A PRIOR APPROVAL PACKAGE 10—DAYS PRIOR TO BID. ALL FINAL APPROVED PACKAGES WILL BE LISTED IN AN ADDENDUM. THE WINNING PACKAGE MUST MEET ALL CRITERIA LISTED IN THIS SCHEDULE AND IN THE SPECS.

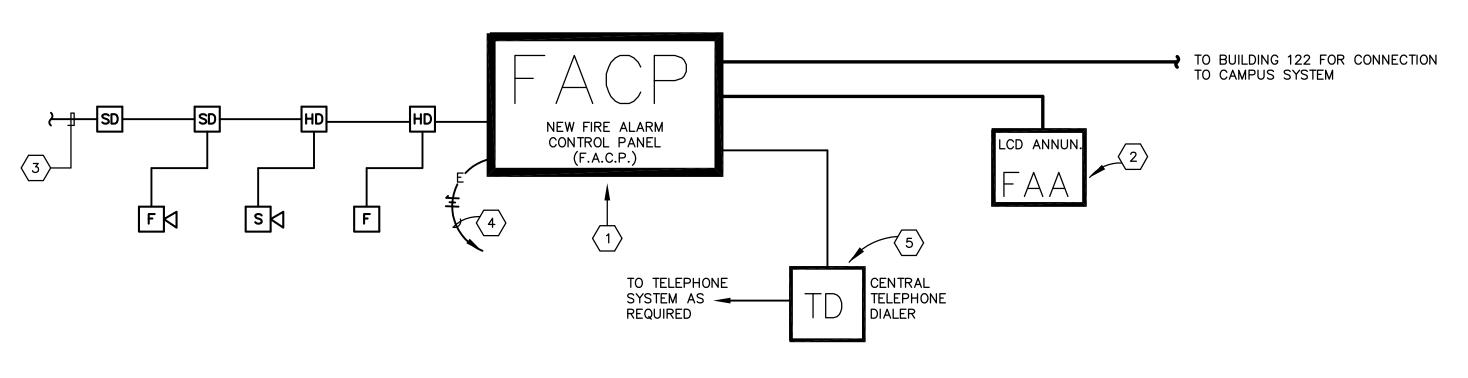
TYPE DESCRIPTION MOUNTING LAMPS MINIMUM LUMENS MAXIMUM WATTAGE VOLTAGE BASIS OF DESIGN **REMARKS** FROM DECK ABOVE. PENDANT WET LOCATION RATED PARKING GARAGE DECK LED LUMINAIRE WITH KENALL MANUFACTURING LED 5000K 7000 MOUNT BETWEEN STRUCTURAL MARINE-GRADE DIE-CAST ALUMINUM HOUSING, POWDER COAT FINISH (COLOR TD17H0-PM-5S-TP-MW-47L-40K8-DCC-DV-BG-TL1000 SELECTED BY ARCHITECT), UV-STABILIZED, IMPACT RESISTANT, INJECTION OR APPROVED EQUAL MOLDED 100% DR POLYCARBONATE LENS. SERVICEABLE HIGH-BRIGHTNESS LED ARRAYS WITH 70 CRI MINIMUM. PROVIDE TYPE 5S OPTICS. PROVIDE DIMMING OR BI-LEVEL SWITCHING DRIVER WITH INTEGRAL OCCUPANCY AND DAYLIGHT SENSORS FOR NETWORKED, ZONAL CONTROL (SEE SEQUENCE OF OPERATIONS). PROVIDE PENDANT MOUNTING HARDWARE AND BIRD GUARDS AS NECESSARY FOR A COMPLETE INSTALLATION. 110 PHILIPS LIGHTING SAME AS 'A' EXCEPT HIGHER LUMEN OUTPUT. SAME AS 'A'. SAME AS 'A'. SF-4-C-38A-40-MKB-US OR APPROVED EQUAL LED LINEAR INDUSTRIAL WRAP FIXTURE WITH POWDER COAT FINISH, AND LED 5000K KENALL MANUFACTURING SUSPENDED UV-STABILIZED IMPACT RESISTANT POLYCARBONATE LENS. DAMP LOCATION TD17H0-PM-5N-TP-MW-9'AFF 94L-40K8-DCC-DV-BG-TL1000 OR APPROVED EQUAL PROVIDE LUMARK NAVION NAV-AE-06-E-UNV-5WQ-700 LED ROADWAY AND LED 4000K 210 MATCH EXISTING SITE 1,2,3,4,7 23,500 20' HINGED POLE AREA LUMINAIRE TO MATCH EXISTING SITE LIGHTING POLES. FIXTURES SHALL LIGHTING FIXTURES LUMARK BE CONTROLLED BY NETWORKED CONTACTOR CABINET (SEE SEQUENCE OF NAVION OPERATIONS). POLE SHALL BE HINGED AT THE BASE. WALL-MOUNT LED VAPORPROOF ELEVATOR PIT LUMINAIRE WITH PROTECTIVE INDATECH WALL 675 WIREGUARD AND ELECTRONIC DRIVER VCL-W-TG OR APPROVED EQUAL LED EXTERIOR WALL PACK WITH CAST ALUMINUM HOUSING, POWDER COAT LED 5000K PHILIPS LIGHTING WALL 12' AFF FINISH (COLOR SELECTED BY ARCHITECT), AND UV-STABILIZED IMPACT 109L-TYPEIII-35LA-CW-UNIV-RESISTANT POLYCARBONATE LENS. OR APPROVED EQUAL X1, LED SINGLE FACE EXIT SIGN WITH AC-ONLY OPERATION. PROVIDE CAST 5,6 LED PHILIPS LIGHTING SEE LEGEND 277 X2 ALUMINUM HOUSING, POWDER COAT FINISH. X2 IS THE SAME EXCEPT FOR OR APPROVED EQUAL

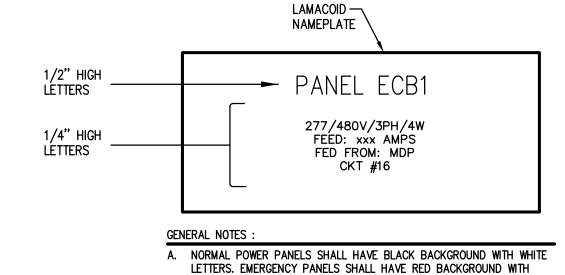
LIGHT FIXTURE SCHEDULE:





NEC ESTIMATED LOAD ANALYSIS CHAR UTILITY ELECTRICAL SERVICE	RT - VA PARKING GARAC
LIGHTING ADJUSTED LOAD =  RECEPTACLES ADJUSTED LOAD =  HVAC ADJUSTED LOAD =  ELEV. EQUIPMENT ADJUSTED LOAD =  MISC. EQUIPMENT ADJUSTED LOAD =	14.66 kV, 7.76 kV, 15.8 KV, 60 KV, 120 KV,
TOTAL BUILDING ADJUSTED LOAD =	219 KV
219KVA/831V = 262.4A X 1.25 =	263.4 <i>i</i> 329.3 <i>i</i>
SERVICE SIZE =	400A/277/480V/3PI





WHITE LETTERS. B. UTILIZE SELF ADHESIVE TYPE LAMACOID PLATE FOR ALL AREAS, EXCEPT UTILIZE SCREW-ON TYPE IN ALL MECHANICAL ROOMS.

# TYPICAL EQUIPMENT NAMEPLATE DETAIL

TRANSFORMER SCHEDULE									
ID	MEDIUM VOLTAGE SERVICE TRANSFOMER	T1							
TYPE	OIL-FILLED	DRY-TYPE							
PRIMARY WINDINGS	12,470V	277/480V							
SECONDARY WINDINGS	277/480V WYE	120/208V WYE							
kVA RATING	750	75							
SPECIAL FEATURES	DOUBLE LUGS								

AS SCHEDULED

(100N)

INVERTER

#### POWER RISER TAGGED NOTES:

- (1) PROVIDE NEW 400A/3PH/4W/277/480V "I-LINE HCM" (OR APPROVED EQUAL) PANELBOARD WITH MAIN BREAKER AS SHOWN.
- $\langle 2 \rangle$  NEW EXTERNALLY MOUNTED SPD (SURGE PROTECTION DEVICE). CATEGORY #C, AS SPECIFIED (DIVISION #26).
- (3) NEW SERVICE GROUND. PROVIDE (1) #4/0 GROUND CONDUCTOR FROM SERVICE DISCONNECT TO (3) 5/8" x 10' COPPERWELD GROUND RODS. PROVIDE HANDHOLES AT EACH GROUND ROD TO FACILITATE TESTING.
- A NEW EXTERIOR SERVICE DISCONNECT. PROVIDE 600V, 400A. 3-POLE 4-WIRE SERVICE ENTRANCE RATED DISCONNECT SWITCH IN NEMA 3R

REFER TO ELECTRICAL SPECS FOR DETAILED REQUIREMENTS.

- (5) PROVIDE NEW METER AND CT CAN PER VA SPECIFICATIONS.
- (6) PROVIDE ELEVATOR DISCONNECT SWITCH; SEE ELEVATOR MANUFACTURER'S REQUIREMENTS.
- (7) PROVIDE CONTROL WIRING FROM SHUNT TRIP BREAKERS INDICATED TO FIRE ALARM CONTROL CABINET. F.A. CONTROL CABINET SHALL TURN POWER OFF AT SHUNT TRIP BREAKERS (VIA F.A. CONTROL MODULES - SEE F.A. RISER) IF HEAT DETECTORS AT ELEVATOR SHAFTS, LOBBIES OR MACHINE ROOMS GO INTO ALARM. MAKE ALL FINAL CONNECTIONS AS REQUIRED BY ELEVATOR MANUFACTURER. REFER ALSO TO ELEVATOR DETAIL FOR ADDITIONAL REQUIREMENTS. NOTE: USE OF BUSSMANN ELEVATOR POWER MODULE MAY COVER SHUNT TRIP REQUIREMENT.
- (8) PROVIDE NEW EXTERNALLY-MOUNTED SPD (SURGE PROTECTION DEVICE), CATEGORY #B, AS SPECIFIED (DIVISION #26). PROVIDE CIRCUIT BREAKER SIZED PER MANUFACTURER'S REQUIREMENTS.
- (9) PROVIDE A 5.25KW INVERTER FOR A 480V PRIMARY TO A 480V SECONDARY. THE INVERTER SHALL BE BATTERY BACK UP SIZE FOR A MINIMUM OF 90 MINUTES RUN TIME. EFFICIENCY MUST BE A MINIMUM OF 90%. THE INVERTER SHALL BE HOUSE IN A NEMA1 HOUSING. MUST HAVE AN OPERATION TEMPERATURE RANGE OF 0 TO 40 DEGREES CELSIUS.
- (10) DEDUCT ALTERNATE 1: IF ALTERNATE IS TAKEN, DELETE EQUIPMENT ASSOCIATED WITH ELEVATOR #2, INCLUDING ELEVATOR MACHINE DISCONNECT, CONDUCTORS, AND BREAKER SERVING EQUIPMENT. CONDUITS AND SPARE CAPACITY IN MDP AND CONDUIT SHALL REMAIN TO ALLOW FOR FUTURE INSTALLATION OF SECOND ELEVATOR.
- (11) PROVIDE NEW SMART METER AND CTs IN MAIN ELECTRICAL PANEL. METER SHALL MATCH EXISTING FACILITY MANAGEMENT EQUIPMENT. REFER TO MECHANICAL SPECS FOR PART NUMBERS AND FURTHER REQUIREMENTS.

AS SCHEDULED

(125)

G75

100/3P

/--- 400A /3

∡100% RATED

75kVA

480∆:

120/208Y

125/3P

DIGITAL

(SEE SPECS)

VOLT/AMMETER ->>>

100/3P

SPÁRE

GROUND BUS ◆ ◆ ◆

NEUTRAL &

SEPARATE

#### POWER RISER GENERAL NOTES :

- ALL NEW CONDUCTORS SHALL BE COPPER (SEE SPECIFICATIONS FOR
- REFER TO DETAIL FOR TYPICAL PANEL LABELLING REQUIREMENTS.
- ALL "I-LINE" PANELS SHALL BE AS SCHEDULED ON THIS RISER (EXCEPT WHERE INDICATED, THE CONTRACTOR SHALL REFER TO THE PANELBOARD SCHEDULES FOR COMPLETE BREAKER SCHEDULE).
- AS PART OF THIS CONTRACT, PROVIDE A COORDINATION/FAULT CURRENT STUDY FOR BREAKERS ON THIS PROJECT. STUDY SHALL INCLUDE ALL MAINS AND FEEDERS SHOWN ON THESE DRAWINGS AND SHALL EXTEND TO THE MAIN LUGS OR BREAKER OF THE FURTHEST DEVICE DOWNSTREAM. ALL NEW BREAKERS ON THE EMERGENCY POWER SYSTEM SHALL BE SELECTIVELY COORDINATED TO 0.1 SECONDS PER NEC (NFPA-70) #700.25. EQUIPMENT PRESENTLY SHOWN IS THE BASIS OF DESIGN — OTHER MANUFACTURERS LISTED AS EQUALS MAY NEED TO MODIFY LAYOUTS AND EQUIPMENT IN ORDER TO MEET THIS REQUIREMENT. ALL MANUFACTURERS MUST UTILIZE ELECTRONIC TRIP BREAKERS WITH ADJUSTABLE TRIP SETTINGS WHERE REQUIRED TO MEET SELECTIVE COORDINATION REQUIREMENTS. WHERE MODIFICATION TO EQUIPMENT INDICATED ON THESE DRAWINGS IS REQUIRED IN ORDER TO ACHIEVE COORDINATION, THESE CHANGES SHALL BE CLEARLY NOTED IN THE STUDY, WHERE ACTUAL BREAKER AMPACITIES ARE INCREASED TO ACHIEVE COORDINATION, THE CONTRACTOR IS RESPONSIBLE FOR INCLUDING ALL COST ASSOCIATED WITH THESE CHANGES IN THEIR BID (INCLUDING INCREASES IN FEEDER SIZES). SUBMIT STUDY AS SHOP DRAWING TO ENGINEER PRIOR TO ORDERING ANY POWER DISTRIBUTION EQUIPMENT. ANY EQUIPMENT SUBMITTED PRIOR TO SUBMISSION OF THIS STUDY WILL NOT BE REVIEWED.
- CONTRACTOR SHALL INSTALL SEPARATE CONDUITS, PULL BOXES, ETC. FOR EMERGENCY POWER BRANCH & NORMAL POWER PER N.E.C. #517-30 (C)(1) FOR COMPLETE SEPARATION OF POWER SERVICES.
- AS PART OF THIS CONTRACT, PROVIDE A COMPREHENSIVE ARC FLASH HAZARD ANALYSIS FOR POWER DISTRIBUTION DEVICES ON THIS PROJECT. PROVIDE ALL LABELS, WARNING SIGNAGE, ETC. PER NFPA-70E AND OSHA REQUIREMENTS.



#### FIRE ALARM RISER TAGGED NOTES

- (1) PROVIDE NEW SURFACE MOUNTED, "STAND-ALONE" MICROPROCESSOR BASED, FIRE ALARM CONTROL PANEL (FACP)/CENTRAL PROCESSING UNIT (C.P.U.). "F.A.C.P." SHALL BE CAPABLE OF MONITORING ALL INDIVIDUALLY ADDRESSABLE ALARM INDICATING DEVICES OR POINTS AS INDICATED AND WITH A MINIMUM OF 20% SPARE CAPACITY FOR FUTURE. PANEL SHALL HAVE STROBE SYNCHRONIZATION MODULE. ALL SYSTEM EQUIPMENT SHALL BE HOUSED IN A SINGLE CABINET. FIRE ALARM CONTROL PANEL SHALL BE HONEYWELL NOTIFIER SERIES OR APPROVED EQUAL (SEE SPECIFICATIONS). ALL EQUALS MUST BE COMPATIBLE WITH EXISTING CAMPUS HONEYWELL NOTIFIER SYSTEM.
- 2 PROVIDE SERIAL "L.C.D." DISPLAY FIRE ALARM SYSTEM ANNUNCIATOR PANEL. REFER TO PLANS FOR LOCATION
- (3) TO ALL OTHER DEVICES ON INDICATED FLOOR. REFER TO FLOOR PLANS FOR ALL DEVICE LOCATIONS.

## GENERAL F.A. SYSTEM RISER NOTES

Revisions:

- THIS RISER IS PARTIAL. ALL THE DEVICES CONNECTED TO THE "FACP" UNITS ARE NOT SHOWN). THE CONTRACTOR SHALL REFER TO THE ELECTRICAL FLOOR PLANS FOR THE COMPLETE F.A. SYSTEM.
- FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (e.g. SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.
- PROVIDE CONNECTIONS TO ANY AND ALL EXISTING FIRE PROTECTION TAMPER AND FLOW SWITCHES (VIA "MONITOR ZAMS"). CONTRACTOR SHALL FIELD VERIFY ALL EXISTING LOCATIONS. CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR COMPLETE INSTALLATION OF A CONNECTION TO EXISTING FIRE PROTECTION SWITCHES.
- ALL FIRE ALARM STROBE LIGHTS SHALL BE SYNCHRONIZED TO ACCOMMODATE BUILDING STANDARDS AS REQUIRED.

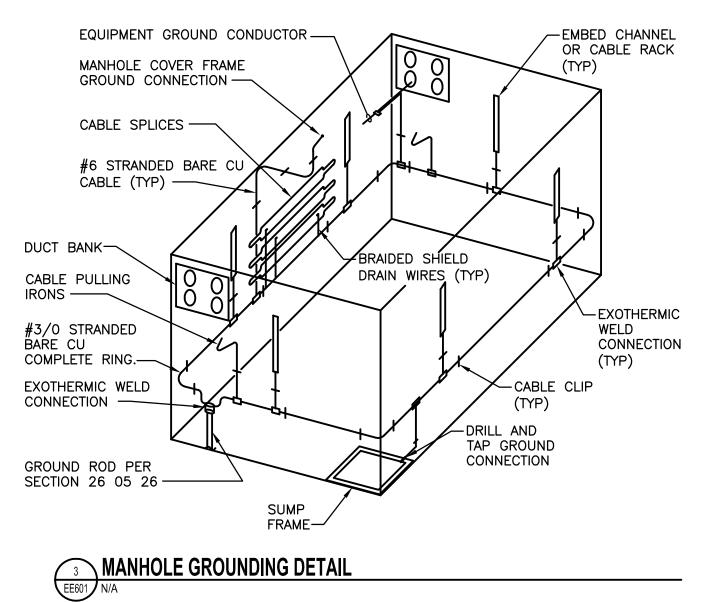
- 4 > PROVIDE 120V EMERGENCY POWER CIRCUITS FOR NEW FIRE ALARM SYSTEM COMPONENTS INDICATED. REFER TO PLANS FOR CIRCUITING.
- 5 PROVIDE A DIGITAL ALARM COMMUNICATOR/TRANSMITTER (DACT) FOR REMOTE REPORTING OF FIRE ALARM PER NFPA. REFER TO FIRE ALARM SPECIFICATIONS FOR DACT REQUIREMENTS AND REQUIREMENTS FOR A CENTRAL RECEIVING STATION CONTRACT.

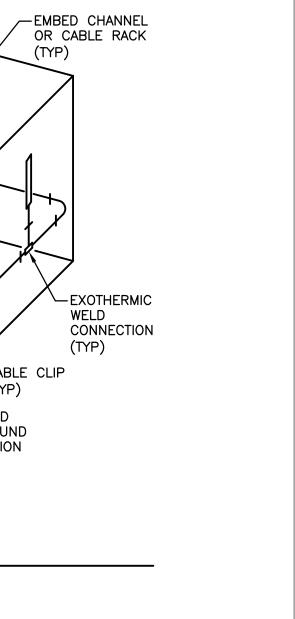
#### NO SMOKE DETECTOR SHALL BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS. NOR CLOSER THAN 12" TO WALL/

- A TECHNICAL REPRESENTATIVE OF FIRE ALARM MANUFACTURER SHALL BE PRESENT AT ALL TIMES DURING FIRE ALARM CERTIFICATION.
- WRITTEN CERTIFICATION OF ENTIRE FIRE ALARM SYSTEM SHALL BE SUBMITTED TO OWNER & CMTA AT CLOSE OF PROJECT.
- UTILIZE A FIRE-RATED, POWER LIMITED "OPEN" TYPE CABLING SYSTEM FOR ALL FIRE ALARM CONDUCTORS (ROUTE THROUGH THE CABLING PATHS AS INDICATED ON SYSTEMS PLANS), EXCEPT SHALL BE RAN IN CONDUIT WHERE RAN EXPOSED IN MECHANICAL ROOMS, OPEN CEILING AREAS, THROUGH-OUT BUILDING "A", ETC.
- PROVIDE WITH POINT I.D. DIALER.

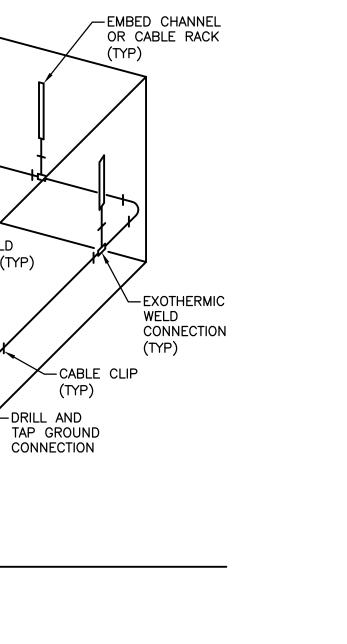
CEILING INTERSECTIONS.

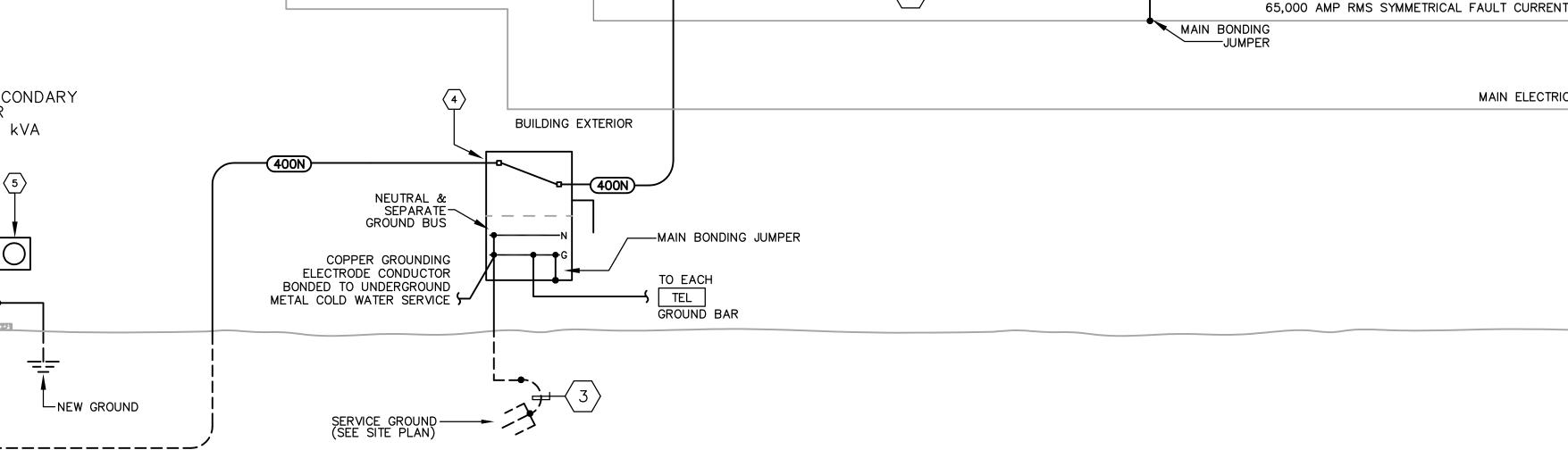
 PROVIDE (2) DEDICATED PHONE LINES FOR FACP. PHONE LINES SHALL BE CONNECTED BY CONTRACTOR PRIOR TO CLOSE OUT OF PROJECT.

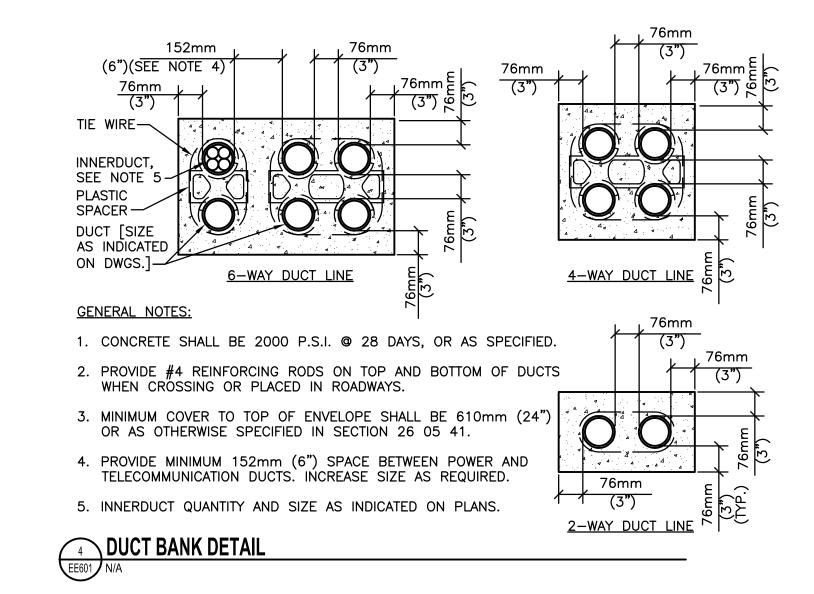


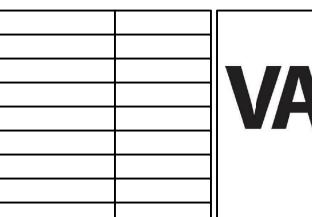


NEW 750 kVA DOUBLE LUG SECONDARY SERVICE TRANSFORMER TO REPLACE EXISTING 500 kVA











U.S. Department of Veterans Affairs

Michael E. DeBakey VAMC 2002 Holcombe BLVD, Houston TX 77030





EXISTING ELECTRICAL PRIMARY SERVICE

CONDUCTORS FROM EXISTING CAMPUS

MEDIUM VOLTAGE LOOP.

ARCHITECT/ENGINEERS: PROJECT LEAD 905 N. CAPITOL AVE. SUITE 100 INDIANAPOLIS, IN. 46204 317.800.6388

RECONNECT EXISTING SERVICE

Mech & Plumb Engineer APOGEE CONSULTING GROUP, PA 1151 Kildare Farm Road, N Suite 120, T: 919.858.7420

CMTA CONSULTING ENGINEERS 1225 North Loop West, Suite 900 Houston, TX 77008 Frisco, TX 75034 Woodlands, TX 77380 T: 713.864.2900 T: 469.777.5143 T: 281.419.9899

ONE - LINE RISER

Drawing Title Civil Engineer Functional Design CARL WALKER INC.

ELECTRICAL DISTRIBUTION **BUILD PARKING** ONE-LINE DIAGRAM **GARAGE A** Approved for Design Concept: **FACILITY MANAGEMENT DIVISION MANAGER** 

Michael E. DeBakey VAMC, Houston, TX Checked By: Drawn By: 2015/10/16 ZPS IRS

100% CONSTRUCTION DOCUMENTS

**ELEVATOR** 

125/3P

ELEVATOR

(ELEV)

125/3P

100/3P SPARE

400 AMP - 277/480 VOLTS, 3ø, 4W, 100% NEUTRAL

SPÁRE

MAIN ELECTRICAL ROOM

MAIN DISTRIBUTION PANEL MDP

Drawing Number

CMTA Project Number

VHG14

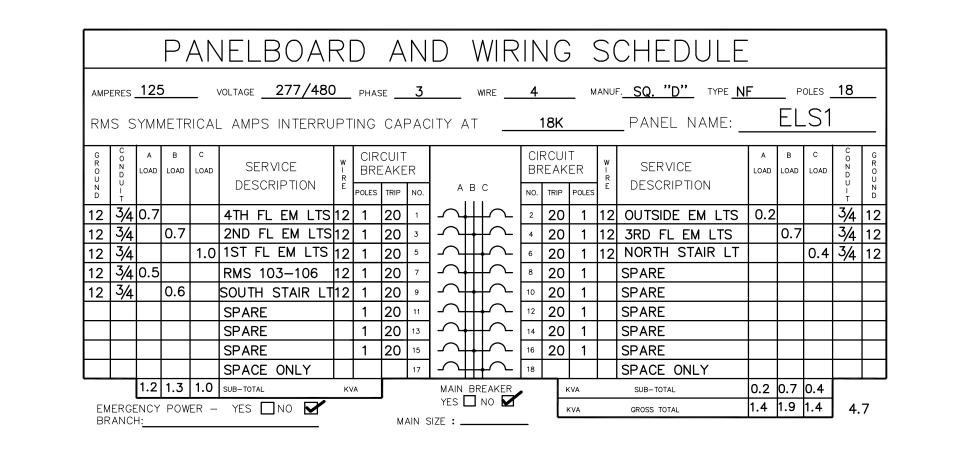
**Building Number** 

VA Project Number 580-321 U.S. Department of Veterans Affairs

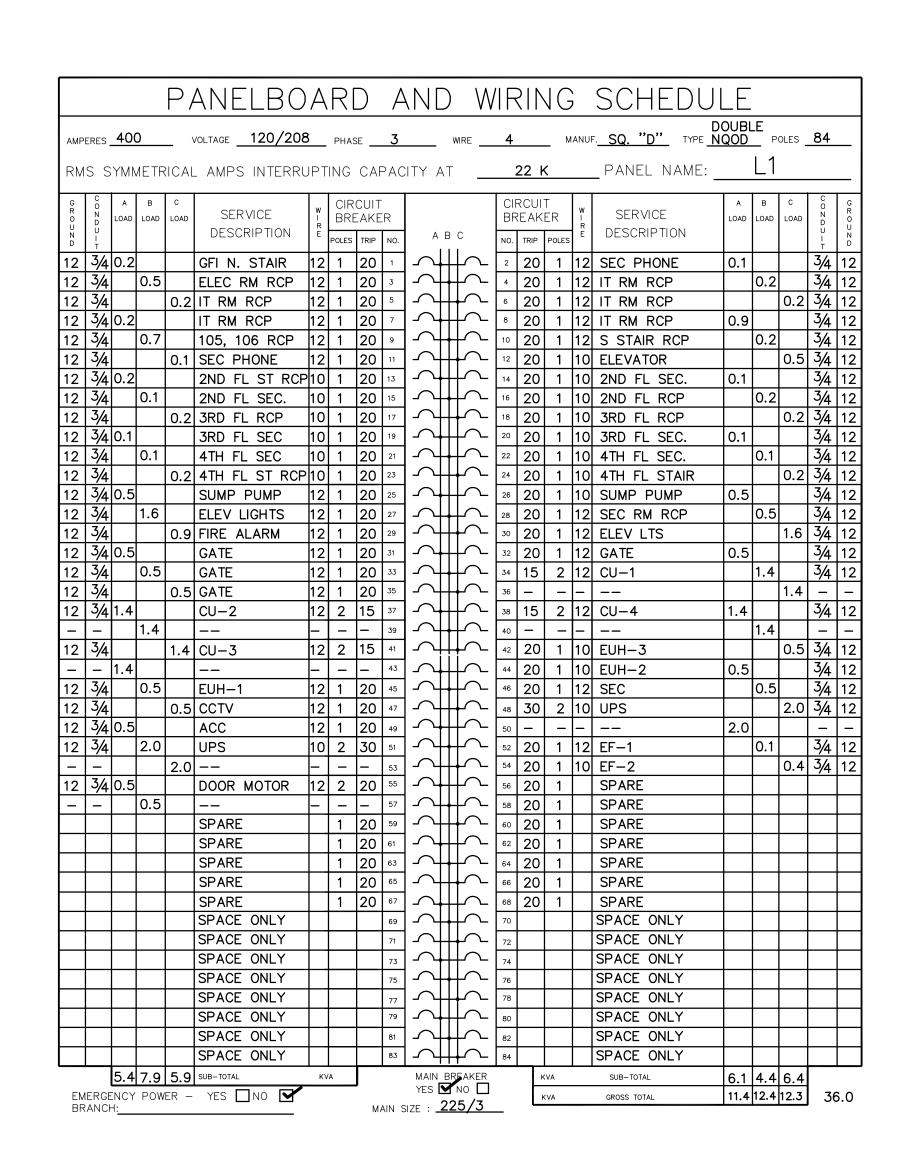
OFFICE OF

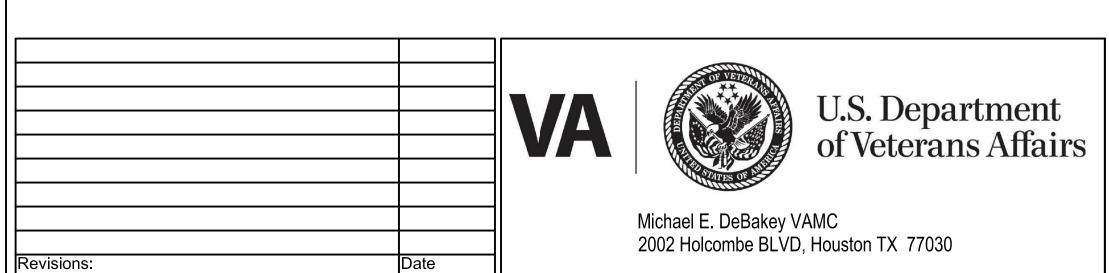
**FACILITIES** 

MANAGEMENT

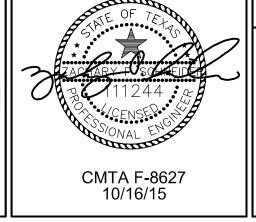


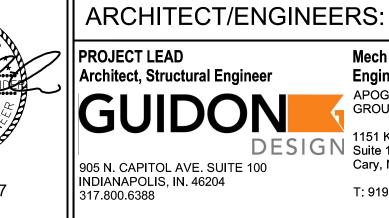
	PANELBOARD AND WIRING SCHEDULE																						
AMP	AMPERES 125 VOLTAGE 277/480 PHASE 3 WIRE 4 MANUF. SQ. "D" TYPE NF POLES 30																						
RM	ms symmetrical amps interrupting capacity at 35K PANEL NAME: H1																						
G R O U N D	CONDULT	A LOAD	B LOAD		SERVICE DESCRIPT	: ION	₩ - R E		CUIT EAKE TRIP	- П	А	В	С	BF	RCUI REAK TRIP	ER	<b>₩</b>	SERVICE DESCRIPTION	A LOAD	B LOAD	C LOAD	CONDULT	GROUND
12	3/4	0.2			SITE LTG	ŀ	12	1	20	1	$ $ $\sim$	$\!$	<b>├</b>	2	20	1	12	1ST FL LTG	0.4			3/4	12
12	3/4		0.7		1ST FL LT	G 1	12	1	20	3	$ $ $\sim$	₩	<b>├</b>	4	20	1	12	1ST FL LTG		0.4		3/4	12
12	3/4			0.7	ENTRANCE	LTG	12	1	20	5	$]$ $\sim$	H	<b>├</b>	6	20	1	12	2ND FL LTG			0.8		12
12		0.3			2ND FL LT	G 1	12	1	20	7	$  \sim$	₩		8	20	1	12	2ND FL LTG	0.2			3/4	12
12	3/4		0.4		2ND FL LT		12	1	20	9	$  \sim$	╫	<b>├</b>	10	20	1	12	3RD FL LTG		0.4		3/4	12
12	3/4			1.0	3RD FL LT		12		20	11	-^-	₩	<b>├</b>	12	20	1	12	3RD FL LTG			0.2	3/4	12
12		1.4			4TH FL LT	_	12	1	20	13	$  \sim$	₩		14	20	1		SPARE					
12	3/4		1.4		4TH FL LT	G 1	12	1	20	15	$ $ $\sim$	₩	<b>├</b>	16	20	1		SPARE					
					SPARE			1	20	17	$ $ $\sim$	₩	<b>├</b>	18	20	1		SPARE					
					SPARE			1	20	19	$ $ $\sim$	₩	<b>├</b>	20				SPACE ONLY					
					SPARE			1	20	21	$ $ $\sim$	₩	<b>├</b>	22				SPACE ONLY					
					SPACE ON	LY				23	$ $ $\sim$	₩	<b>├</b>	24				SPACE ONLY					
					SPACE ON	LY				25	$ $ $\sim$	₩		26				SPACE ONLY					
					SPACE ON	LY				27	$]$ $\sim$	₩	<b>├</b>	28				SPACE ONLY					
					SPACE ON	LY				29	$ $ $\sim$	₩	<b>├</b>	30				SPACE ONLY					
										31	$ $ $\sim$	₩	<b>├</b>	32									
										33	$ $ $\sim$	₩		34									
										35	$ $ $\sim$	₩	<b>├</b>	36									
										37	$  \sim$	╫	<b>├</b>	38									
										39	$  \sim$	₩	<b>├</b>	40									
										41	$\overline{}$	$\underline{H}$	$\overline{\sim}$	42									
		1.8	2.6	1.7	SUB-TOTAL		KV.	A			MAIN	BR	EAKER		K	.VA		SUB-TOTAL		0.9			
	IERGE ANCI		POW	ER –	YES NO				M	AIN <sup>©</sup>	YES   - : BIZE		NO 🔽		L	(VA		GROSS TOTAL	2.4	3.4	2.7	8.	5
יום	., 10	'							IVI	1111	~~L • <u>-</u>			_									











er	Mech & Plumb Engineer	Ε
1	APOGEE CONSULTING GROUP, PA	C El
ESIGN	1151 Kildare Farm Road, Suite 120, Cary, NC 27511	16 Si W
	T: 919.858.7420	T:

Elec Engineer Civil Engineer Functional Design

CMTA CONSULTING H2B Inc.. CARL WALKER INC. ENGINEERS

1610 Woodstead Court, Suite 105 Woodlands, TX 77380 West, Suite 900 Houston, TX 77008 Frisco, TX 75034

T: 281.419.9899 T: 713.864.2900 T: 469.777.5143

100% CONSTRUCTION DOCUMENTS										
Drawing Title ELECTRICAL DISTRIBUTION PANELBOARD SCHEDULES	Project Title  BUILD PARKING  GARAGE A			CMTA Project Number VHG14  Building Number 132	OFFICE OF FACILITIES MANAGEMENT					
Approved for Design Concept: FACILITY MANAGEMENT DIVISION MANAGER	Date 2015/10/16	cey VAMC, Ho Checked By: ZPS	· · · · · · · · · · · · · · · · · · ·	Drawing Number EE602	VA Project Number 580-321  VA U.S. Department of Veterans Affairs					

#### SITE UTILITIES PLAN (GENERAL NOTES): DO NOT SCALE FROM MECHANICAL OR ELECTRICAL DRAWINGS. FIELD VERIFY REQUIRED DIMENSIONS. LOCATIONS, DEPTHS, MATERIAL TYPES, ELEVATIONS, ETC. OF ALL APPURTENANCES, LINES, BUILDINGS, ETC. INDICATED ON THESE DRAWINGS WERE TAKE FROM VARIOUS SOURCES, ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO SUBSTANTIAL VARIATION FROM EXISTING CONDITIONS. EXISTING UTILITIES LOCATIONS MAY VARY (CONSEQUENTLY ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE.) FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE, AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS. UTILITIES SHALL ALSO BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY. IF ANY VARIATION OCCURS, CONSULT THE BUILDING ENGINEER AND THE ELECTRICAL/MECHANICAL ENGINEER'S REPRESENTATIVE). CONTRACTOR SHALL VISIT SITE AND FIELD VERIFY THE ROUTING OF ALL UTILITIES NEW AND EXISTING PRIOR TO SUBMISSION OF BIDS. SUBMISSION OF — CALCULATIONS INDICATE THE A BID PROPOSAL INDICATES THAT THE CONTRACTOR IS FULLY AWARE OF ALL OBSTRUCTIONS AND WILL INSTALL ALL OF THE NEW UTILITIES WITHOUT AMOUNT OF SPILL LIGHTING COMING FROM THE BUILDING REQUESTS FOR ANY ADDITIONAL CHANGES. ONTO THE SITE. ALL FEES AND ANY OTHER COSTS TO UTILITY COMPANIES, MUNICIPALITIES, INSPECTORS, REVIEWING AGENCIES, ETC. ARE TO BE INCLUDED AS A PART OF THIS CONTRACT. WHEN INTERRUPTION OF AN EXISTING UTILITY OR SERVICES IS PLANNED OR PROVIDE 1 # 500 Kcmil GROUND FROM "MDP" GROUND BAR OCCURS ACCIDENTALLY, THE CONTRACTOR(S) SHALL WORK CONTINUOUSLY AS TO THREE 5/8" x 10'-0" COPPERWELD GROUND RODS AS NEEDED TO RESTORE SAME PROVIDING PRÈMIUM TIME AS NEEDED AT NO REQUIRED (SEE POWER RISER). CONTRACTOR SHALL TEST INCREASE IN THE CONTRACT PRICE. GROUND IMPEDANCE LEVEL AND IF NOT 1 Ohm, CONTRACTOR - SHALL ADD GROUND RODS AS NECESSARY TO MEET THIS PLANNED INTERRUPTION OF ANY SERVICE SHALL BE COORDINATED WITH THE REQUIREMENT. FIELD VERIFY BEST LOCATION FOR GROUND APPROPRIATE MUNICIPALITY OR UTILITY COMPANY, THE ARCHITECT AND THE RODS ON SITE PRIOR TO CONSTRUCTION. PLACE BARE BUILDING OPERATORS AT LEAST ONE WEEK IN ADVANCE OF ANTICIPATED GROUND BELOW CONCRETE ENCASED SERVICE SECONDARIES INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND WHERE RAN IN SAME TRENCH, IN ADDITION, CONNECT TO , o o o o o o AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY WATER LINE AT FIRE PROTECTION PIT AS REQUIRED. INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED FROM THEM AT LEAST TWO WEEKS IN ADVANCE IN WRITING AND INSURE THAT THEY DO NOT DELAY WORK. • REFER TO ALL OTHER PLANS AND SPECIFICATIONS, BUT ESPECIALLY TO: A) THE SITE SURVEY PROVIDE NEW PROVIDE EXTERIOR CONCRETE ENCASED B) THE ARCHITECTURAL SITE PLAN DISCONNECT SIZED SECONDARY C) THE SITE GRADING PLAN PER RISER. — DUCTBANK, SEE RISER D) THE PLANTING PLAN (WHERE AVAILABLE) FOR SIZING. E) FOUNDATION PLAN(S) F) MECHANICAL & ELECTRICAL FLOOR PLANS FOR SERVICE CONTINUATIONS G) THE SITE UTILITY PLAN - MECHANICAL WHERE THERE ARE CONFLICTS AMONG PLANS AND/OR RELATED PROVIDE NEW CONCRETE ENCASED COMMUNICACTIONS SPECIFICATIONS, ADVISE ENGINEER AT LEAST TWELVE DAYS PRIOR TO DUCTBANK WITH (4) 4" CONDUITS WITH INNER DUCT FOR SUBMISSION OF BIDS. CONNECTIONS FROM BUILDING 122. STUB UP CONDUITS IN GARAGE IT ROOM. PROVIDE CABLING AND CONNECTIONS FOR CONTRACTOR SHALL CUT AND PATCH ALL PAVEMENT, CURBING, ETC. AS FIRE ALARM, SECURITY, DATA, AND CCTV. VERIFY EXACT REQUIRED, FOR WORK. CONTRACTOR SHALL PATCH AND REPAIR ALL CONNECTION LOCATIONS AT BUILDING 122 WITH OWNER. LANDSCAPING THAT IS DISTURBED FOR WORK AS REQUIRED. FEDERAL, STATE, LOCAL, MUNICIPALITY AND UTILITY COMPANY CODES, RULES, REGULATIONS AND REQUIREMENTS APPLY UNLESS EXCEEDED BY THIS DESIGN. CONTRACTOR SHALL VERIFY EXACT LOCATION OF OUTDOOR RECEPTACLES WITH OWNER PRIOR TO ROUGH-IN. CONTRACTOR SHALL PROVIDE PULL STRINGS IN ALL CONDUITS. CONTRACTOR SHALL PROVIDE RED COLOR DIE MIXED IN CONCRETE FOR ALL UNDERGROUND PRIMARY AND SECONDARY CONCRETE ENCLOSED CONDUITS. ALL OTHER CONCRETE COVERED ELECTRICAL FEEDS CAN HAVE RED DYE ON PROVIDE NEW IN GRADE PULL BOX WITH TRAFFIC RATED COVER. BOX SHALL BE CONTRACTOR SHALL PROVIDE TRACER WIRE FOR ALL UNDERGROUND CONDUITS SIZED TO ACCOMMODATE REQUIRED AND DUCTBANKS. ALL TEMPORARY UTILITIES (PHONE/WATER/DATA/TELE/ETC.) WILL BE THE CONTRACTOR'S RESPONSIBILITY. THE OWNER WILL NOT BE PROVIDING OR PAYING FOR ANY TEMPORARY UTILITIES. BEFORE YOU DIG METER RACK ONE STORY CONCRETE BUILDING THE CONTRACTOR AND ALL SUBCONTRACTORS GRADE. FEATHER & TAMP SHALL CALL 811 TO OBTAIN UNDERGROUND TRANSFORMER UTILITY LOCATIONS PRIOR TO ANY CONSTRUCTION. BACKFILL TO CREATE ANY CONTRACTOR OR SUBCONTRACTOR FLUSH INSTALLATION AND PERFORMING ANY TYPE OF EXCAVATION ON THIS POSITIVE DRAINAGE AWAY PROJECT SHALL CALL THIS NUMBER TO OBTAIN REPLACE EXISTING PAD FROM BOX AN AUTHORIZATION NUMBER. MOUNT TRANSFORMER WITH A A A A A A A A NEW PAD MOUNT LIQUID FILLED TRANSFORMER. SEE RISER FOR SIZING. PULLBOX (SEE SPECIFICATIONS) GENERAL INSTALLATION NOTE: LINE SIDES OF EXCAVATION WITH COORDINATE INSTALLATION AND PIPE CROSSINGS WITH ALL UTILITIES AND ALL TRADES TO AVOID 13.6 KG (30 LBS.) INTERFERENCE AND TO ENSURE ALL CLEARANCES ARE MET PRIOR TO INSTALLATION. FELT PAPER (4) CONCRETE BRICKS 51mmx203mmx406mm (2"x8"x16<del>")</del>— CLEAN 19mm -CONDUIT(S) WITH BELL CATE TERRACE (3/4") CRUSHED ENDS (TYP). SIZE, **OUANTITY AND WIRING** AS INDICATED ON PLANS **UNDERGROUND CONCERTR PULLBOX - TURF AREAS** 1 ELECTRICAL SITE - UTILITIES PLAN ES101 1" = 30' 100% CONSTRUCTION DOCUMENTS CMTA Project Number Drawing Title ARCHITECT/ENGINEERS: OFFICE OF ELECTRICAL SITE - UTILITIES PLAN VHG14 **BUILD PARKING FACILITIES** PROJECT LEAD Building Number U.S. Department Mech & Plumb Civil Engineer Functional Design Elec Engineer GARAGE A MANAGEMENT Engineer **Architect, Structural Enginee** of Veterans Affairs APOGEE CONSULTING GROUP, PA CMTA CONSULTING ENGINEERS CARL WALKER INC. Approved for Design Concept: Drawing Number VA Project Number 1225 North Loop 1151 Kildare Farm Road, 2801 Network Blvd., Michael E. DeBakey VAMC, Houston, TX 580-321 **FACILITY MANAGEMENT** N Suite 120, West, Suite 900 905 N. CAPITOL AVE. 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